Useful Music Theory For Guitarists:

This text explains useful music theory concepts and *applied* techniques, in a way that is commonly understood by mainstream guitarists in most popular forms of music (rock, blues, country, jazz, funk, etc.). It is meant to be a *practical* guide, with musical examples provided throughout to help build a vocabulary of typical musical phrases and fingering patterns known by most guitarists. In order to internalize musical theory concepts, you must practice many real musical examples. It's not enough to read the explanations. The examples in this text are meant to present only the most common and useful materials known by all capable guitarists. They've been filtered through use in real lessons with thousands of students over more than two decades. They come from a lifetime of professional performance experience, and they represent the materials that have been most effective at getting students to actually play well and to sound good by modern performance standards.

The goal of this text is to provide an understanding of the most commonly used musical materials, patterns, and applied techniques that create mainstream music, so that they can be recognized, understood and put to use in real performance. The materials, concepts, and techniques described in this text are most useful in understanding where common, mainstream music "comes from" and how that knowledge can be put to practical use in improvisation ("jamming") situations, composition, arranging, "playing by ear", and other creative musical endeavors. You'll learn how to play and apply pentatonic scale solos, how to play through chord changes using arpeggios and added passing tones (intervals), and how to create and analyze chord progressions using roman numeral patterns. This is not a general text about "how to play guitar". To develop basic skills, techniques, and understanding, you should take private lessons or get a book that explains all the basics of reading tablature, chord diagrams, and rhythm notation, and learn how to perform all the common picking and strumming techniques, hammer-ons and pull-offs, slides, harmonics, tapping techniques, common open chord shapes, power chords, bar chords, etc. To build basic musical skill, intuitive understanding, and fundamental technical ability, you should learn to play hundreds of songs and pieces by rote. Nothing will replace that experience. This text will serve to explain everything else, and will tie together all that other knowledge and ability.

Most guitarists begin learning about soloing and improvisation by using the "pentatonic" scale, so that's where this text will begin. The diagram below is a picture of the pentatonic scale as it appears on the 6 strings of the guitar. The "O" symbols represent fingers, and the dashes represent empty, unplayed frets on each string. This fingering pattern is "movable", which means that it can be slid to any fret on the guitar neck. The notes on the first string are provided to label the "key" in which the scale is played when it's moved to a given fret:

The "Pentatonic" Scale:

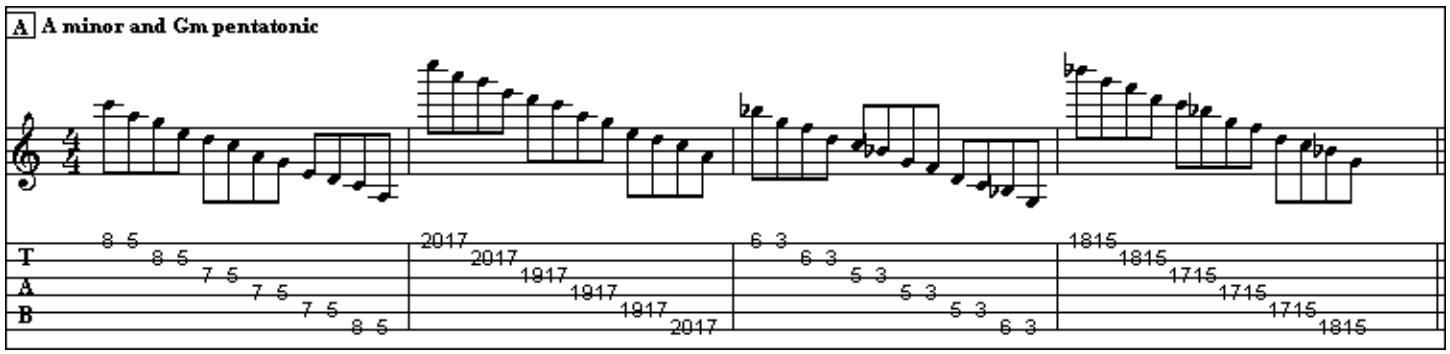
```
OOOOOO
||||||
|OOO||
O|||OO
```

Notes on the 1st string:

Fret #:	0	1	2	3	4	5	6	7	8	9	10	11	12
Note Name:	E	F	F#	G	G#	A	A#	B	C	C#	D	D#	E
			Gb		Ab		Bb			Db		Eb	

The sharp and flat note names are equivalent (F#=Gb, G#=Ab, etc.). Note that there are no E#/Fb or B#/Cb notes - E/F and B/C are next to each other on the fretboard.

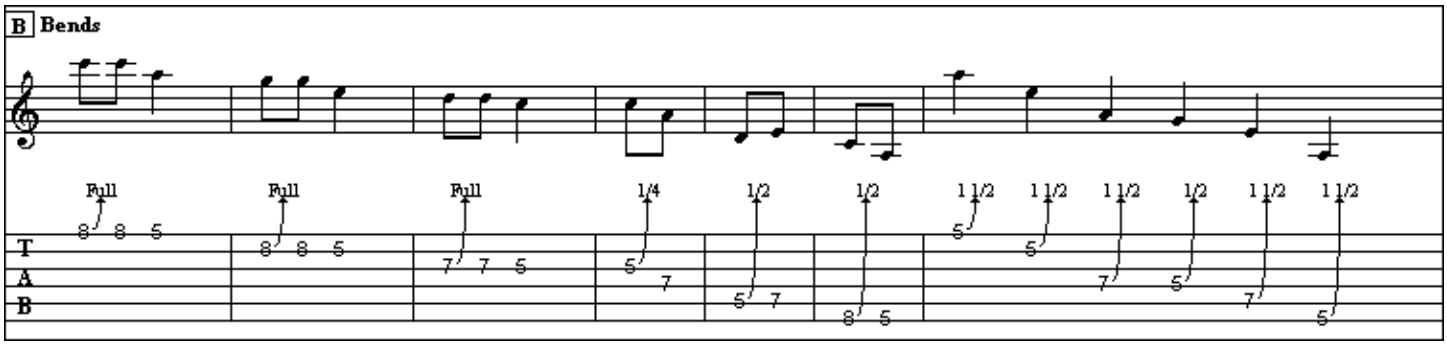
For most common chord progressions, you can put your pointer finger on the key note of the progression, and the diagram above will sound correct. You can also move up 12 frets for the "octave" position. For example, here are the A (5th and 17th frets) and G (3rd and 15th frets) minor pentatonic scales:



Try the Am and Gm pentatonic scales against the following chord progressions:

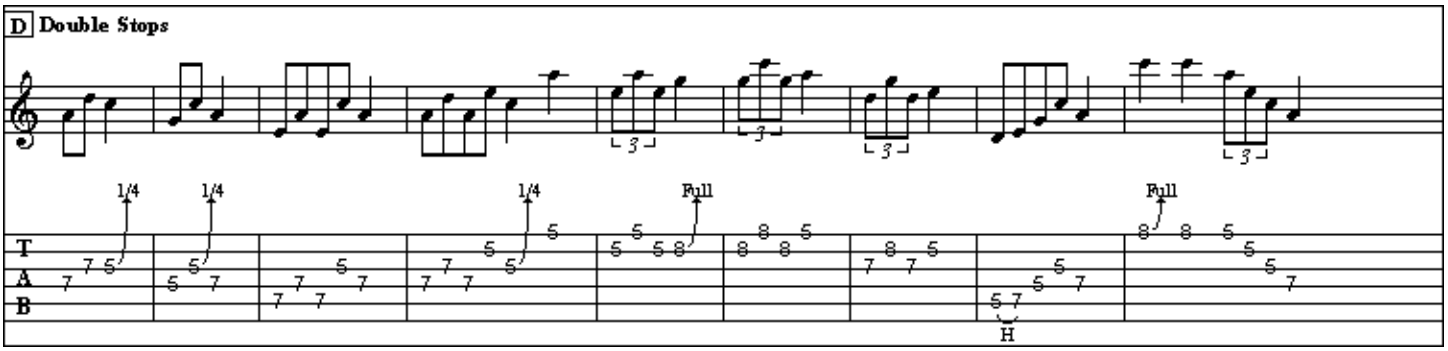
Key of A:	Am	F	C	G	A7	D7	A7	E7	C	Dm	Am	G	A	F	G	A
Key of G:	Gm	Eb	Bb	F	G7	C7	G7	D7	Bb	Cm	Gm	F	G	Eb	F	G

The scales sound correct, but they're boring when played straight up or down. Here are some techniques, licks, and patterns that create interesting sounds from the scale. All licks in this text are written in the key of A:

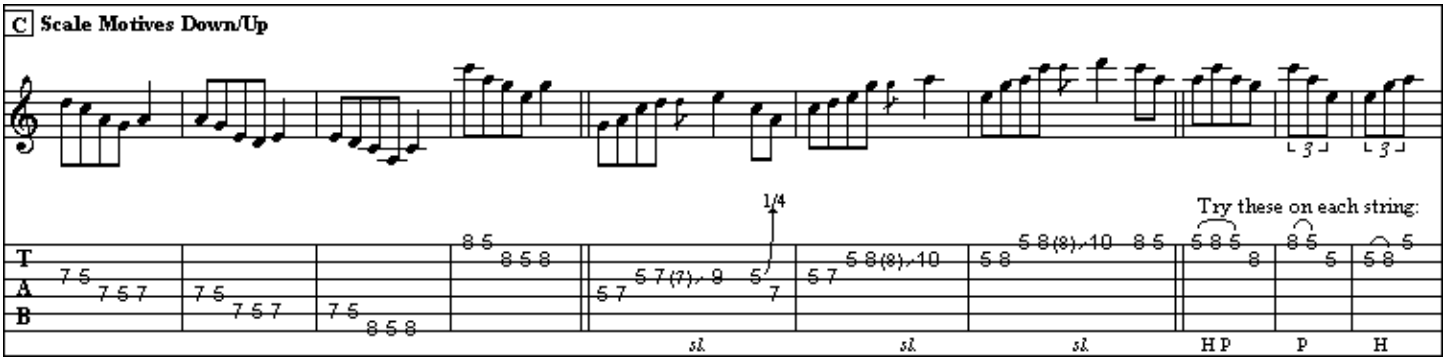


To bend notes, scrunch your right hand fingers next to the fret and *slide* your finger up against the fret. If the string loses contact with the fret, it will stop sounding. Keep constant pressure on the string – it will be physically difficult when you first start playing bends. Your fingers may need to build up some muscle. Use your wrist and arm to help with the motion. For "full" bends, make the bent note sound like the note 2 frets higher. To hear how it should sound, slide your finger up 2 frets, and then move back down and make the bent note sound the same as the note 2 frets higher. ½ step bends should sound 1 fret higher, 1½ step bends = 3 frets, 2 step bends = 4 frets, ¼ step bends are half way to the next fret, etc.

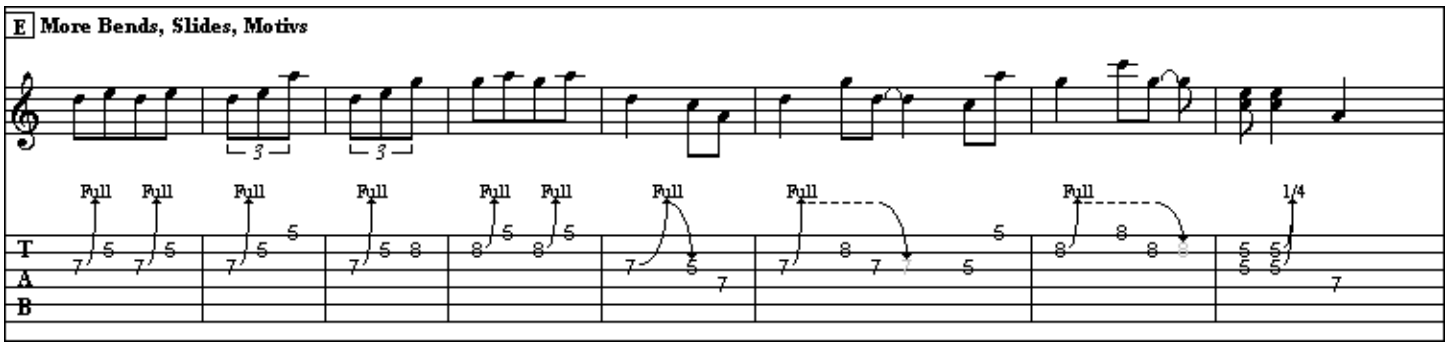
"Double stops" are created by holding down notes on adjacent strings in the scale. These are *very* important:



"Motives" are created by taking patterns of motion and moving them around the strings:



Here are some more common pentatonic licks that guitarists regularly use:

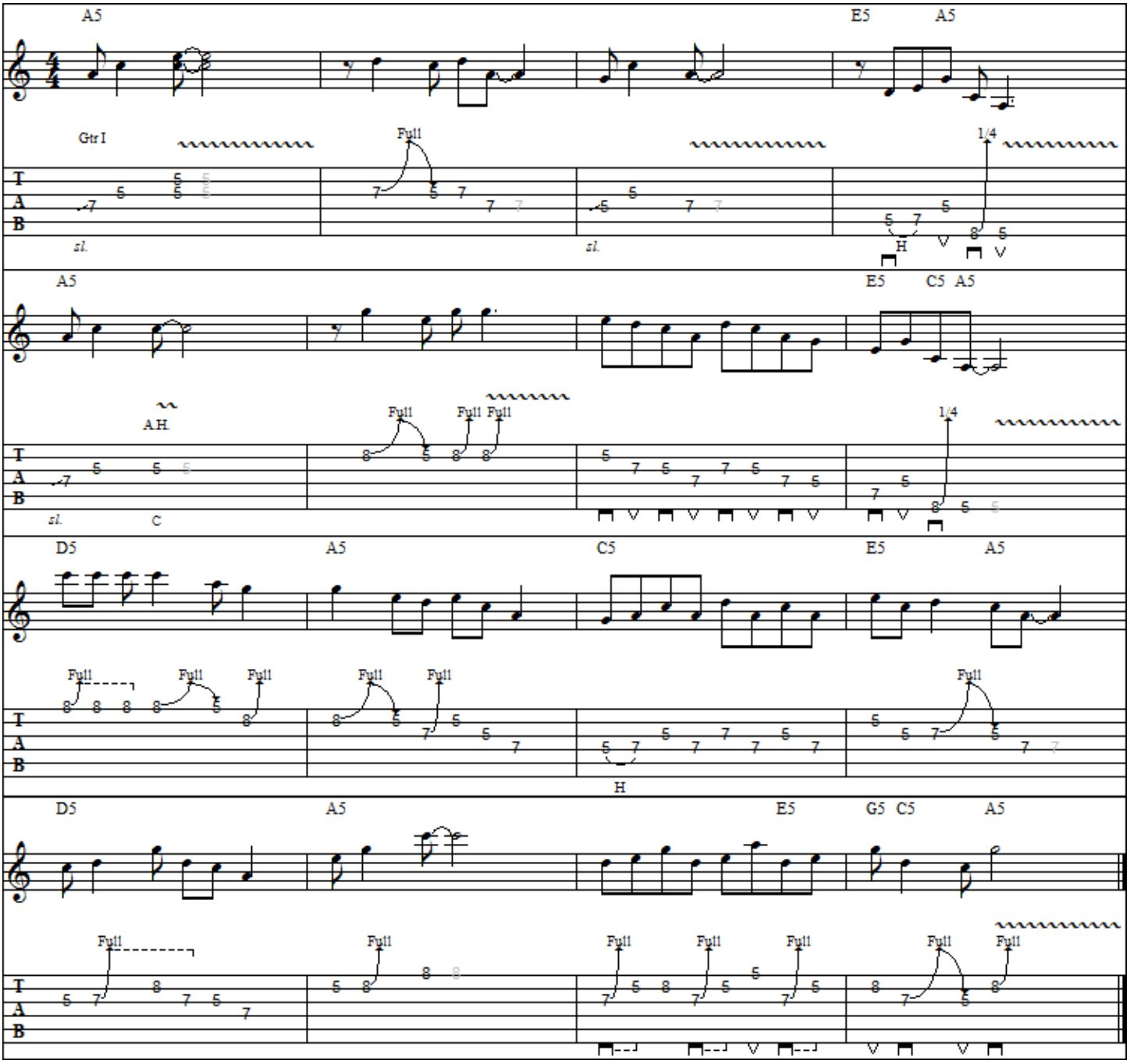


In general, your fingers should stay aligned so that 1 individual finger covers each fret (that's called a "1 finger per fret" stretch).

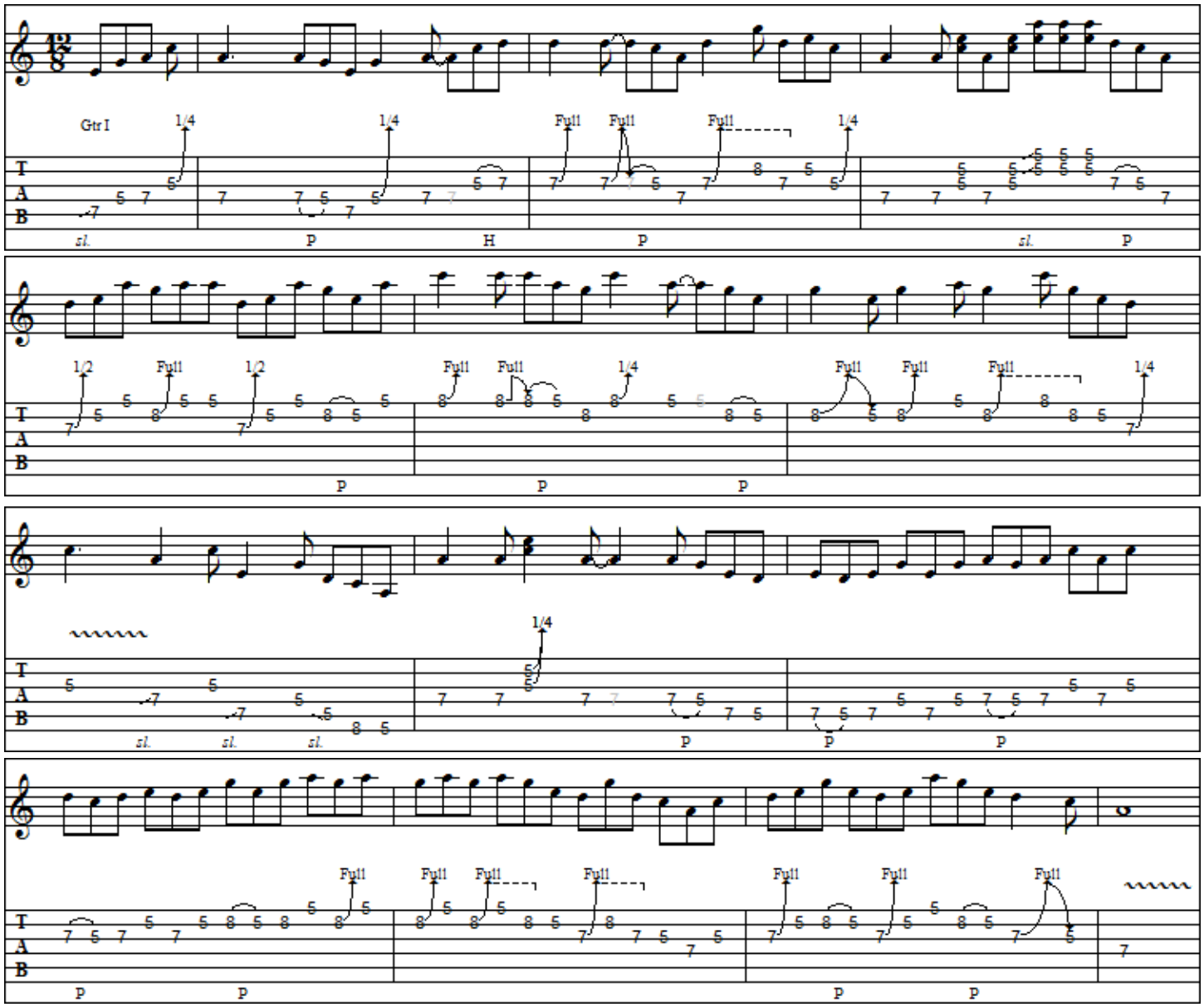
COMPLETE PENTATONIC SOLOS:

The following pages contain 3 lead guitar solos that come entirely from the the first position pentatonic scale fingering. They contain a variety of common licks, techniques, and musical cliches known by most guitarists, and they demonstrate how phrases can be put together to form complete pieces. Learning these pieces will provide a very solid foundation in basic lead guitar technique and understanding.

Solo 1 - Key of A, Medium Tempo Rock:

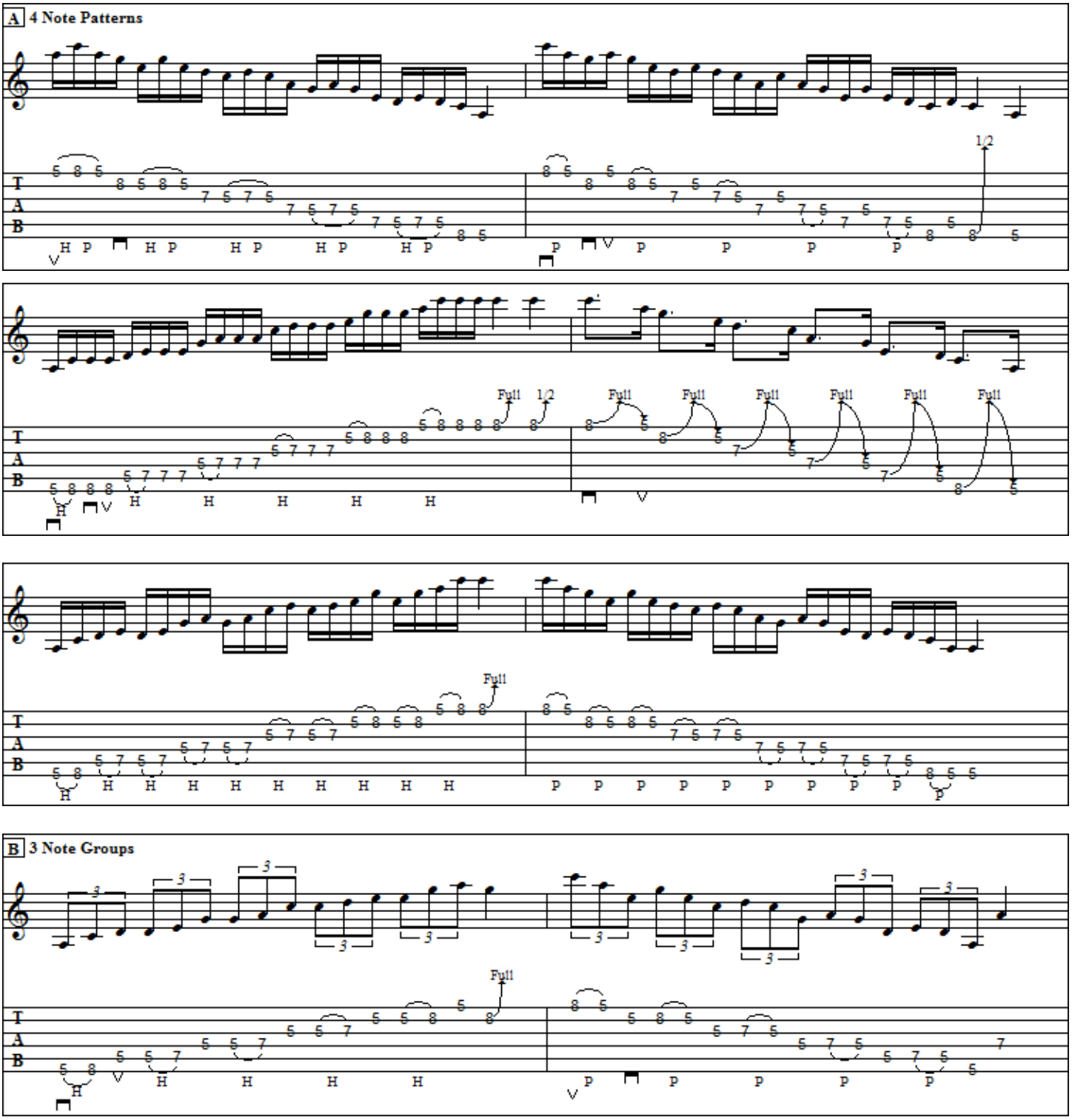


Solo 2 - Key of A, Medium Tempo Blues:

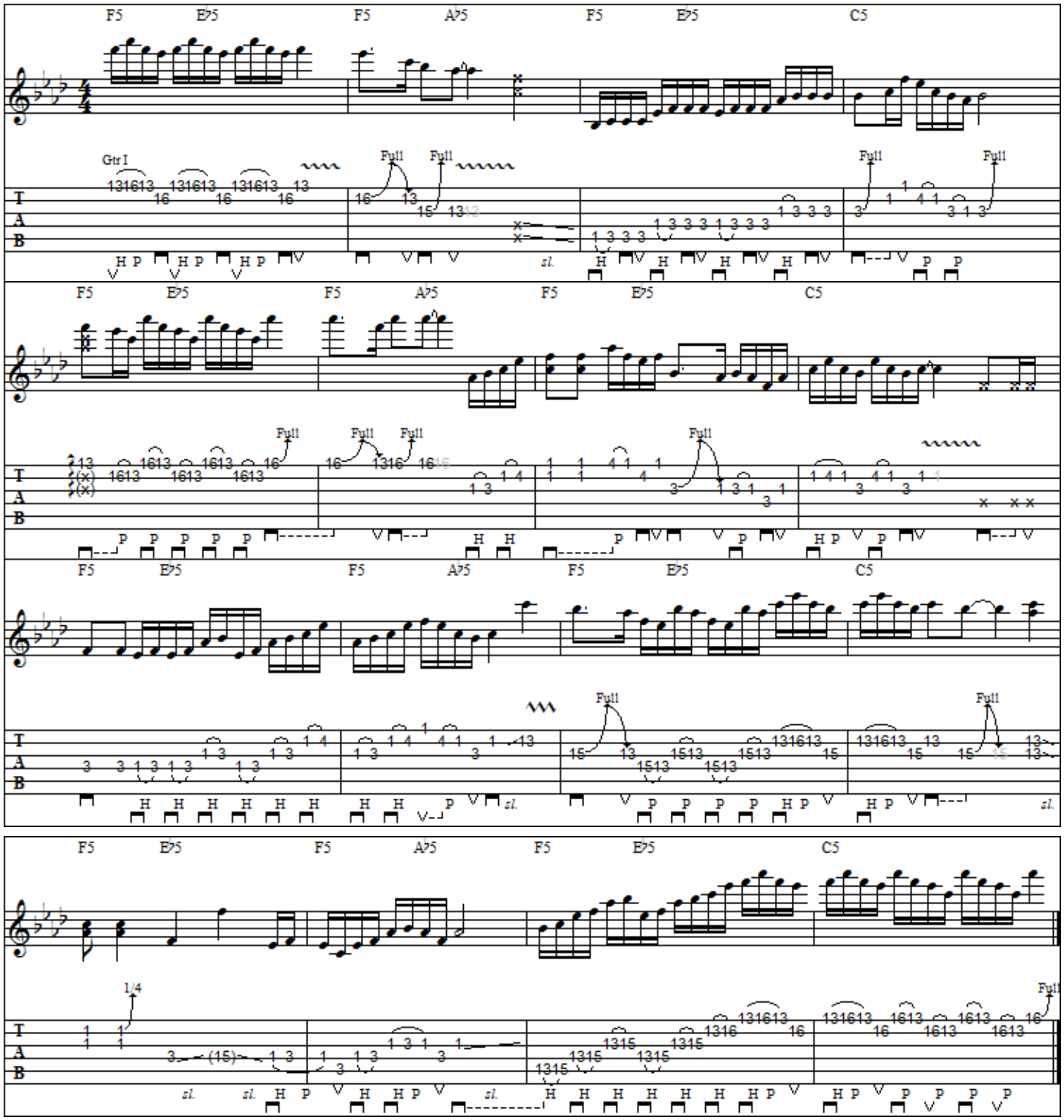


Fast Motive Patterns:

Fast rock solos typically make use of repeating motive patterns. The exercises below demonstrate how a variety of these common finger motion patterns can moved across the strings of the pentatonic scale. The solo on the following page demonstrates how these patterns can be put to use in real music:



Solo 3 - Key of F, Fast Rock with motive patterns:



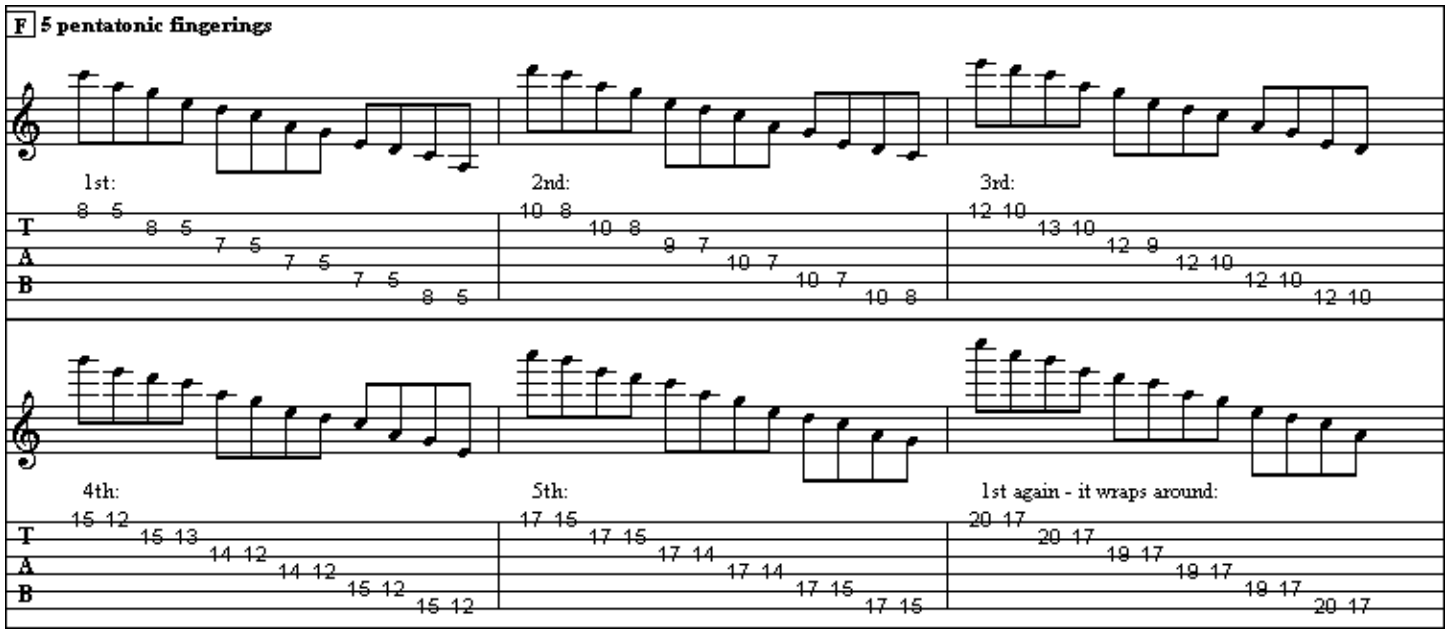
MORE PENTATONIC SCALES:

There are 4 additional fingering patterns for the pentatonic scale (5 total):

```
  1st          2nd          3rd          4th          5th          1st
OOOOOO       |OOO||       |||O||       OOOO|O #     ||OO|| @     OOOOOO ^
||||||       O|||OO *     OOO|OO %     ||||O|       OO||OO       ||||||
|OOO||       |||O||       ||||||       ||OO||       ||||||       |OOO||
O|||OO *     OOO|OO %     OOOO|O #     OO||OO @     OOOOOO ^     O||||O *
                          ||||O|
```

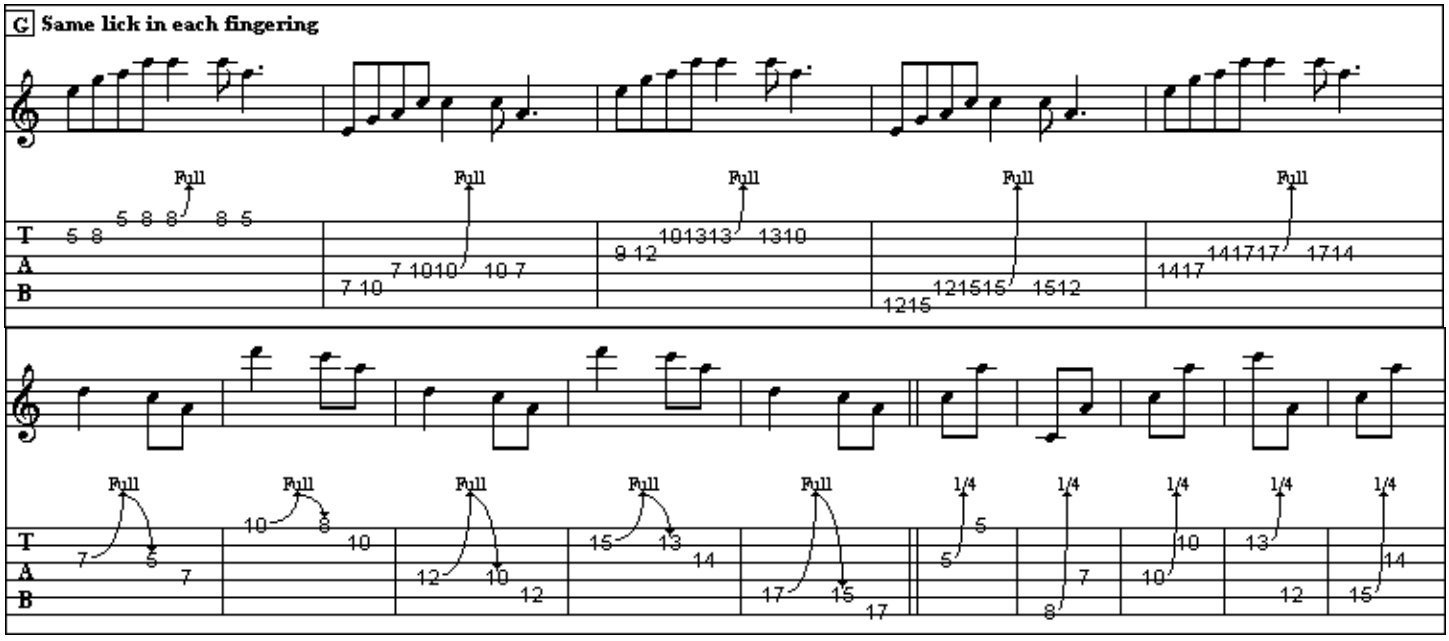
(5th position wraps around to 1st position.)

On every string, the top note in each fingering position is the same as the bottom note in the next position. Match up the symbols beside each diagram to see how they align. All 5 positions connect to cover the entire fretboard in every key, as follows in the key of A:

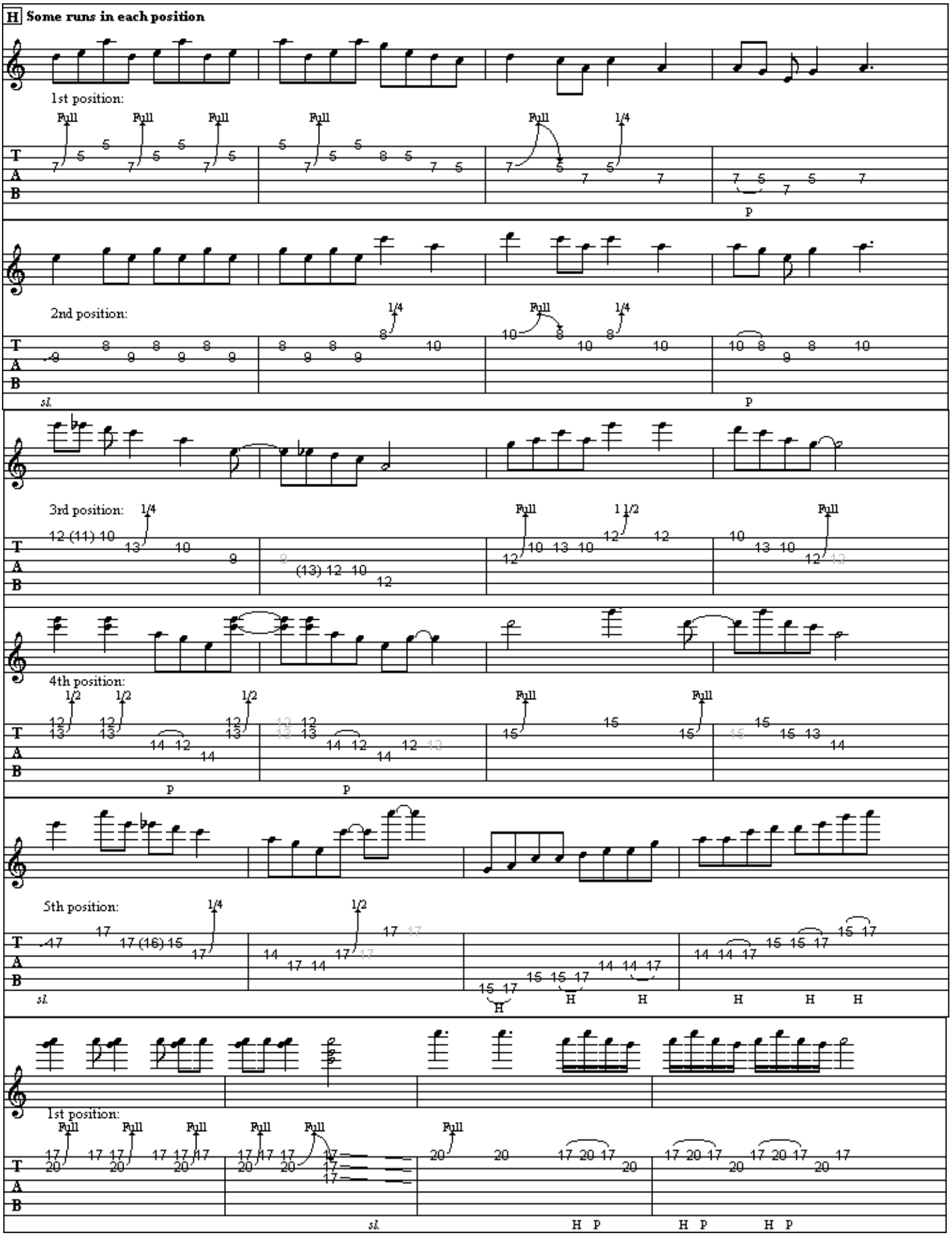


The Rotating Pattern:

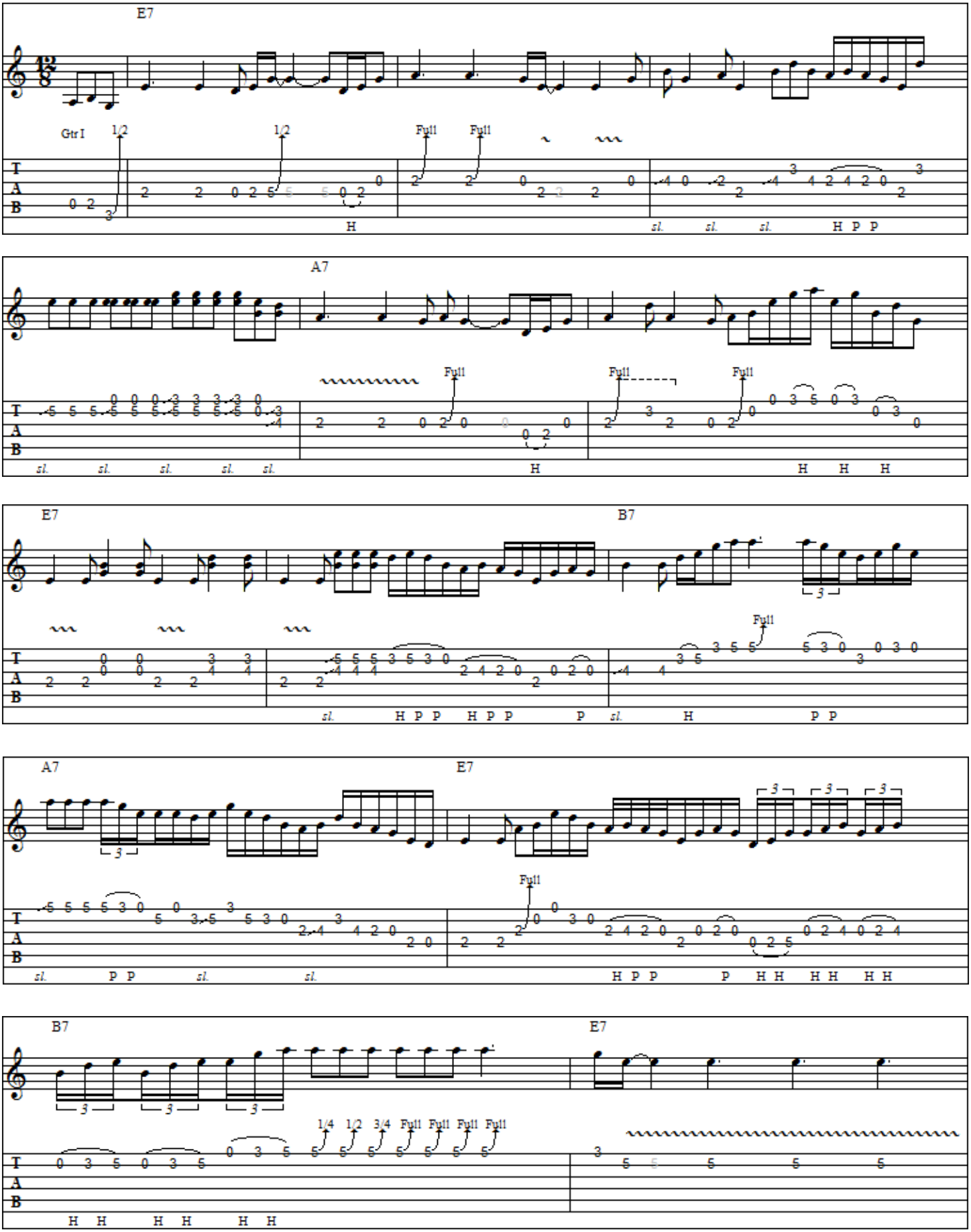
Notice that each scale fingering consists of a rotating pattern of 3 adjacent narrow fingerings (ring and pointer fingers on each string) and 2 adjacent wide fingerings (pinky and pointer fingers on each string). You can move all the bends, motives, double stops, and other moves found in the 1st position, to any other position. Just follow the pattern of wide and narrow fingerings. For example, any licks played in the 2 wide fingerings in the first position can be played in the 2 wide fingerings in any other position, and they'll sound the same:



Here are some additional common licks from each scale fingering:



Solo 4 - Pentatonic Positions #1 and #2, Slow Blues, Key of E:

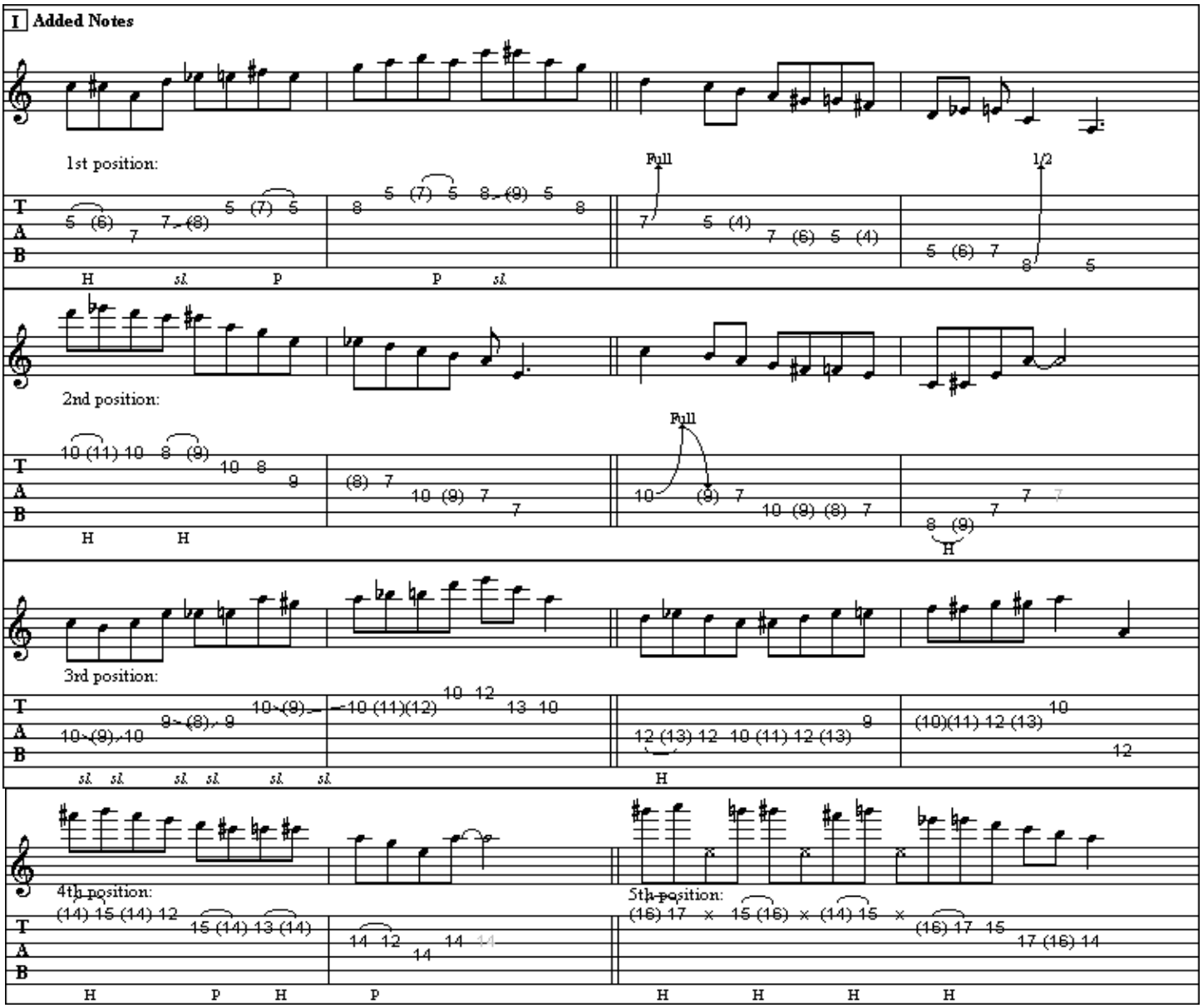


To create more interesting sounds, you can add notes to a pentatonic scale. The "blues" scale is a pentatonic scale with 1 additional note. The added note is often found on several strings in the same fingering pattern (the "+" symbol in the diagrams below):

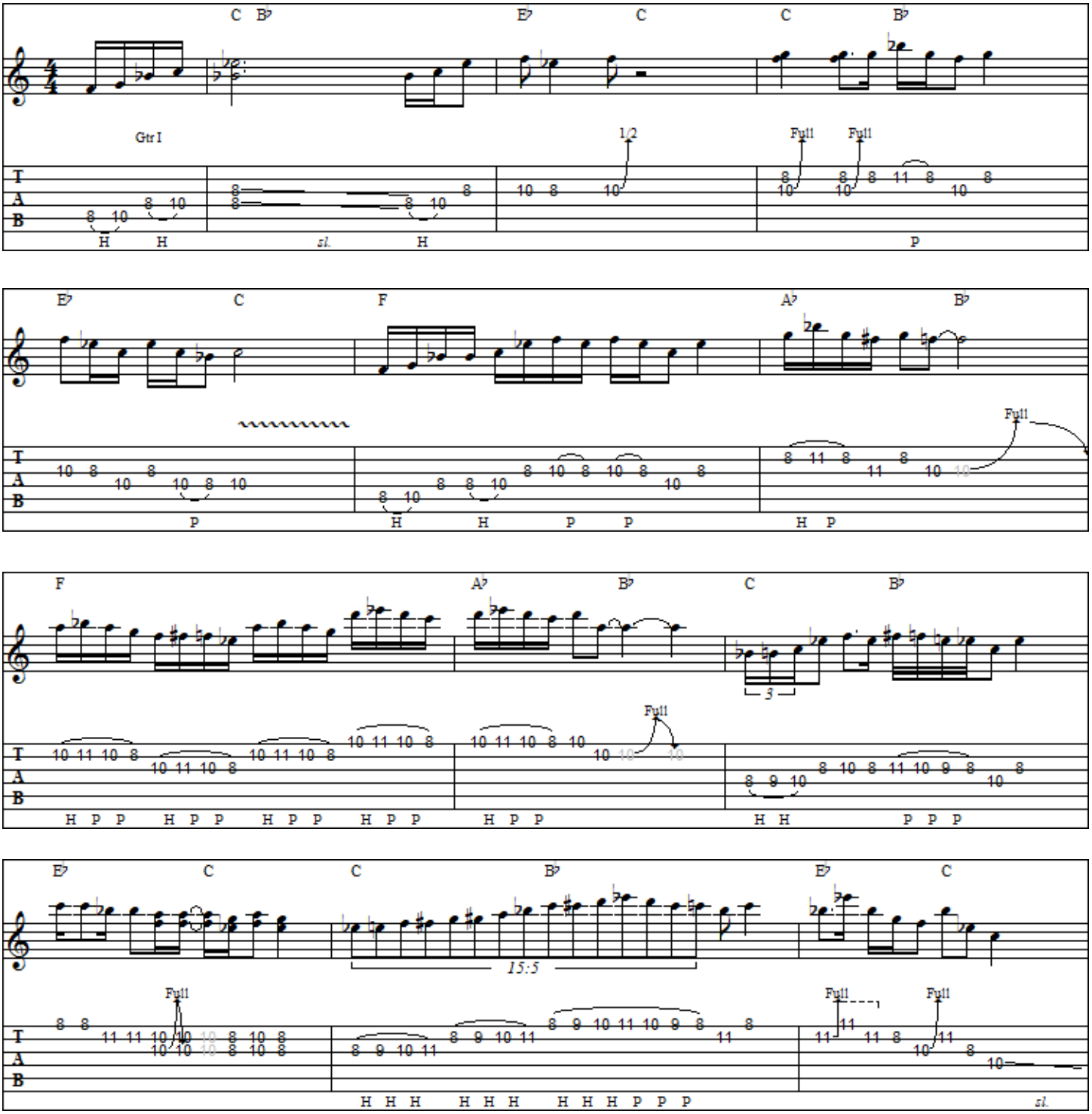
1st	2nd	3rd	4th	5th	1st
OOOOOO	|OOO||	|||O||	OOOO|O	||OO||	OOOOOO
|+||||	O||+OO	OOO|OO	||+|O|	OO||OO	|+||||
|OOO||	|||O||	+||||+	||OO||	||||+|	|OOO||
O||+OO	OOO|OO	OOOO|O	OO||OO	OOOOOO	O||+OO
	+||||+	||+|O|	||||+|	|+||||	

You can also add a variety of other notes, as long as the focus stays on the pentatonic pitches. In fact, any note can be used as a quick passing tone, as long as it's not accented or dwelled upon:

1st	2nd	3rd	4th	5th	1st
++++++	++++++	++++++	++++++	++++++	++++++
OOOOOO	+OOO++	+++O++	OOOO+O	++OO++	OOOOOO
++++++	O+++OO	OOO+OO	++++O+	OO++OO	++++++
+OOO++	+++O++	++++++	++OO++	++++++	+OOO++
O+++OO	OOO+OO	OOOO+O	OO++OO	OOOOOO	O+++OO
++++++	++++++	++++O+	++++++	++++++	++++++



Solo 5 – Pentatonic 1st position with added notes, Key of C, Fast Rock:



MAJOR PENTATONIC SCALES:

The pentatonic fingerings you've seen so far are actually called "Minor" pentatonic scales. "Major pentatonic" scales use the *exact* same fingerings as minor pentatonic scales, only they're *moved down 3 frets*. For example,

"A *minor"* pentatonic starts with the *pointer* finger at the 5th fret (the "A" note):

```
  1st          2nd          3rd          4th          5th          1st
OOOOO+ 5   |OOO||      |||O||      OOOO|O 12   ||O+||      OOOOO+ 17
||||||     O|||OO 8    OOO|+O 10    ||||O|      OO||OO 15   ||||||
|OOO||     |||O||      ||||||      ||O+||      ||||||      |OOO||
O|||OO 8   OOO|+O 10   OOOO|O 12   OO||OO 15   OOOOO+ 17   O||||O 20
                       ||||O|
```

"A *major"* pentatonic starts with the *pinky* finger at the 5th fret (the "A" note):

```
  1st          2nd          3rd          4th          5th          1st
OOO+OO 2   |OOO||      |||O||      OOOO|O 9    ||OO||      OOO+OO 14
||||||     O|||O+ 5    OOO|OO 7    ||||+|      OO||OO 12   ||||||
|OOO||     |||O||      ||||||      ||OO||      ||||||      |OOO||
O|||O+ 5   OOO|OO 7    OOOO|O 9    OO||OO 12   OOO+OO 14   O||||+ 17
                       ||||+|
```

In all the fingerings above, the "A" root notes are marked by a "+" symbol.

Major pentatonic scale notes can be used in many of the same places as minor pentatonic scales, over many of the same chord progressions, but they produce a sweeter, more pastoral sound. They are very commonly used in country music - they form the basis for soloing in that style. Understanding the use of major pentatonics requires a bit more understanding of roman numeral chord theory, which will be covered later in this text. As a reference, the following guidelines apply:

Rule 1:

Over I(7) IV(7) V(7) bVII bIII and bVI chords, you can play the minor pentatonic, blues scale, or any variation (with added notes, etc.), in the same key. That's what you've been doing with pentatonics so far. For example,

Over A G D C (I bVII IV bIII in the key of A)

```
OOOOO+ (5th fret)  -->  Play A minor pentatonic, pointer at the 5th fret
||||||
|OOO||
O|||OO
```

Rule 2:

Over I(7) IV(7) V(7) ii iii and vi chords, you can play the major pentatonic scale in the same key. For example,

Over A C#m D E7 F#m Bm D A (I iii IV V7 vi ii IV I in the key of A)

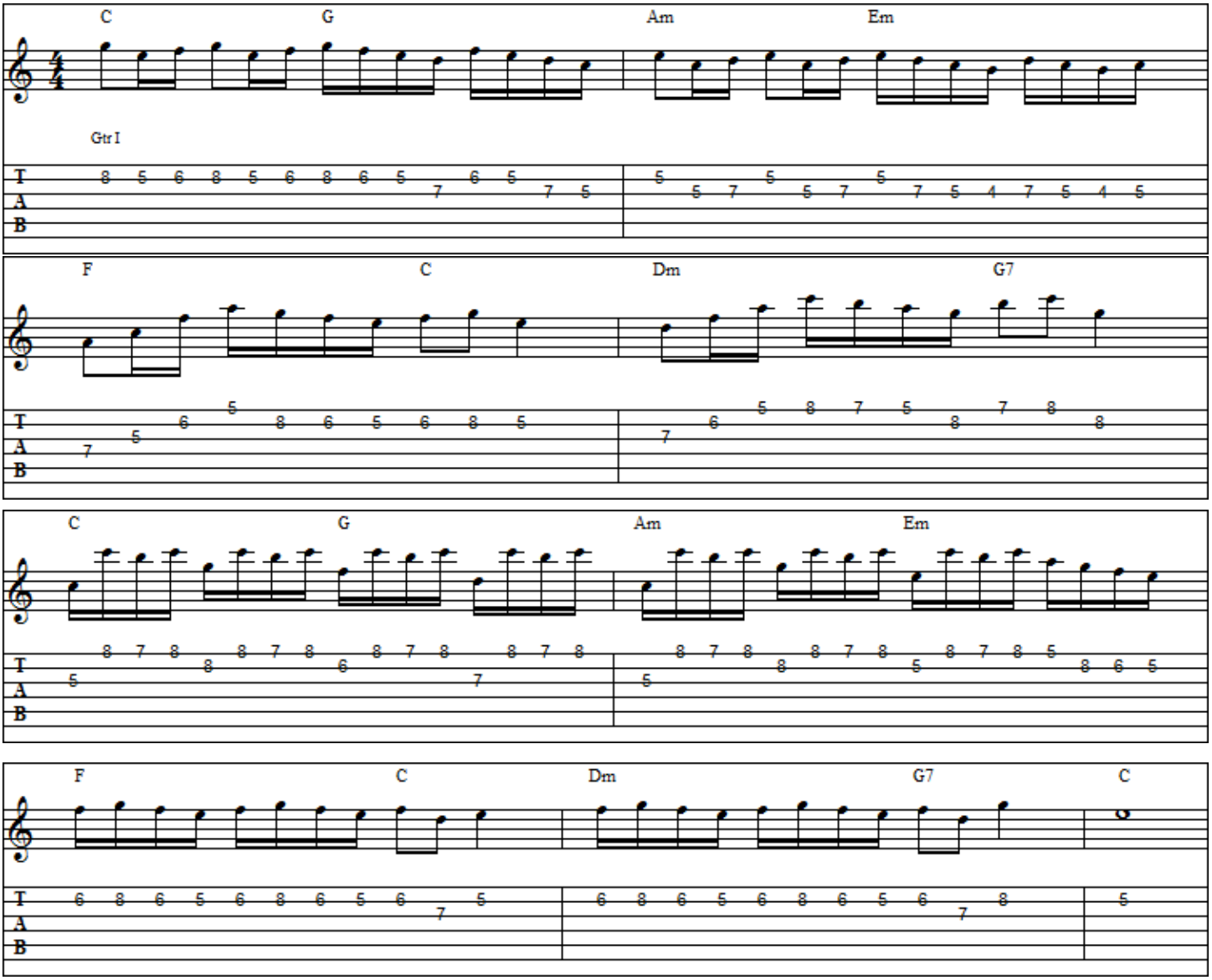
```
OOOOOO
||||||
|OOO||
O|||O+  (5th fret)  -->  Play A major pentatonic, pinky at the 5th fret.
```

There are several things to be aware of concerning major pentatonic scales:

1) **An "A Minor" pentatonic is the same as "C Major" pentatonic (pointer finger on 5th fret, pinky finger on the 8th fret = same fingering). An "A Major" pentatonic is the same as an "F# minor" pentatonic (pointer finger on the 2nd fret, pinky finger on the 5th fret = same fingering). Every pentatonic fingering has both a major and a minor name, based on where the pinky and the pointer fingers are positioned.**
2) **You can play either major or minor pentatonic scales over I, IV, and V chords (those chords are found in both rules above).**

This is a point of confusion for everyone, and it's an important scale concept in all popular lead guitar styles (rock, country, blue, jazz, heavy metal, etc.) so take a second to figure it out on the guitar.

Solo 6 – Major Pentatonic 1st position with added notes B and F, Key of C, Slow Folk:



BEYOND PENTATONIC SCALES – PLAYING THROUGH CHORD CHANGES:

Most guitarists learn to play lead guitar first with pentatonic scale licks. Many performers never learn any other approach to soloing, and the rock guitar repertoire is filled with famous guitar solos that are primarily based on pentatonic licks. Pentatonic scales provide an easy to learn set of notes that derive from and complement the notes found in common chord progressions. The problem is, they tend to create only one characteristic sound. To really understand music, and to create even more interesting sounds, learning to play melodies derived from each individual chord in a progression is required.

All common mainstream music is created from chords. Every melody you've ever heard can be thought of as a series of notes that come from a given set of chords. In fact, every complete piece of music you've ever heard can be thought of as a collection of notes that basically make up a chord progression. Any attempt to write, improvise, play by ear, arrange, or otherwise create music, therefore, is ultimately an effort to manipulate the notes of chords. The following sections of this text will teach you how to do that.

TERMS AND CONCEPTS:

Chords are made up of "INTERVAL" patterns. On the guitar, intervals can be thought of in terms of relative note positions, or *shapes*, on the fret board. Certain shapes are common in mainstream music. In fact, a small handful of common shapes make up the overwhelming majority of every kind of music. Learning the sounds created by combinations of those shapes, and the ways they are normally put together, is the goal of studying music theory.

"Arpeggios" are the notes of chords played individually. To play all the notes of any chord/arpeggio, anywhere on the guitar neck, you must first find the "ROOT NOTE", or letter name of the chord. In an "A major" chord, the root note is "A". In an "F#major9(#11)" chord, the root note is "F#". The note diagram below displays all the note names on the 6th (thickest) string of the guitar - memorize them.

The "octave" shape below is a MOVEABLE fingering pattern, which means the diagram can be slid to any fret on the guitar. Using it, you can find all the notes with the same name (all the number "1"s), everywhere possible on the guitar fret board. This pattern repeats every 12 frets. For example, if you find an "A" on the 6th string, 5th fret, you'll find all the other possible "A"s at the following string/fret positions: 6/5, 4/7, 2/10, 5/12, 3/14, 1/17, 6/17, 3/2, 1/5, 4/19, etc.

To find interval numbers that make up chords, use the interval diagrams below. For example, using the first small interval diagram below (the one that contains the numbers 7135), if you put a number "1" on an "A" root note at the 6th string, 5th fret (6/5), you'll find the 3rd interval at 5/4, the 5th interval at 5/7, and the 7th interval at 6/4. Using that same small diagram, if you find an "A" root note at 4/7, the 3rd interval is at 3/6, the 5th interval is at 3/9, and the 7th interval is at 4/6. You can follow that same fingering pattern (shape) to find the intervals at every octave position, for any root note. NOTE: When finding notes between the 3rd and 2nd strings, the numbers need to be shifted one fret apart, so that either the notes on the 2nd string are moved up one fret, or the notes on the 3rd string are moved down 1 fret. For example, if you find an "A" root note at 3/14, the 3rd interval is at 2/14 (instead of 2/13), the 5th interval is at 2/17 (not 2/16), and the 7th interval is at 3/13.

To make any chord, just find the specified intervals, listed in the chord formula section below, around the required root note of a given chord. Flat symbols ("b") move a note DOWN one fret (closer to the headstock). Sharp symbols ("b") move a note UP one fret (closer to the bridge). For example, the notes of an "A major" chord are found at the following frets: 6/5, 5/4, 5/7, 4/7, 3/6, 3/9, 2/10, 1/9, 1/12, 5/12, 4/11, 4/14, 3/14, 2/14, 2/17, 1/17, 6/17, 5/16, 5/18, etc. The notes of an "A7" chord (also called an "A dominant 7th") are found at the following frets: 6/5, 5/4, 5/7, 6/3, 4/7, 3/6, 3/9, 4/5, 2/10, 1/9, 1/12, 2/8, 5/12, 4/11, 4/14, 5/10, 3/14, 2/14, 2/17, 3/13, 1/17, 1/15, 6/17, 5/16, 5/18, 6/15 etc.

NOTES:

	0	1	2	3	4	5	6	7	8	9	10	11	12
6th string:	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E

OCTAVES:

```
1 | | | | 1
| | | | | |
| | 1 | | |
| | | | | |
| | | | | |
| | | | 1 |
| | | | | |
| 1 | | | |
| | | | | |
| | | 1 | |
| | | | | |
| | | | | |
1 | | | | 1
```

INTERVALS:

```
7 3    7 3
1 |    1 4
| |    | |
| 5    2 5
       | |
3 |    3 6
| |    4 |
| |    | 7
5 1    5 1
| |    | |
| |    6 2
| |    | |
7 3    7 3
```

COMMON CHORD FORMULAS:

"dominant 7th"

major: 1 3 5 minor: 1 b3 5 7: 1 3 5 b7

sus4: 1 4 5 sus2: 1 2 5 add9: 1 3 5 9

major7: 1 3 5 7 minor7: 1 b3 5 b7

major6: 1 3 5 6 minor6: 1 b3 5 6

9: 1 3 5 b7 9 13: 1 3 5 b7 (9 11) 13

7(#9): 1 3 5 b7 #9 major9(#11): 1 3 5 7 9 #11

9=2 11=4 13=6

MELODIC VOCABULARY:

Melodies are created by playing notes from chords in a give progression. "Passing tones", or non-chord tones (intervals not contained in any given chord) are often added to create musical interest, and to move interestingly from one chord tone to the next. Below are several melodic interval fragments to learn for dominant 7th chords (1 3 5 b7). These interval patterns can be strung together throughout octaves to create interesting sounds. Practice them, and remember to land on and rhythmically accent the chord tones 1, 3, 5, b7:

```
b3 3 1   4 3 1   1 7 b7   6 b7 1   5 b5 4 3   2 b2 1   2 b3 3   1 2 b3 3   5 6 b7   5 b6 6 b7
```

Here are a variety of longer melodic examples to practice and play over dominant 7th chords. These examples provide a basic vocabulary of licks that you can practice, in order to understand and internalize how melodies are created from interval patterns:

```
Dominant 7th chord licks:

1 1 1 1   1 1 1 1   1 1 1 1   1 1 1 1
1 3 1 3   1 3 1 3   1 3 1 3   1 3 1 3
1 3 1 3   1 5 1 5   1 5 1 5   1 5 1 5
1 3 4 3 1   1 3 4 3 1   1 3 4 3
2 b3 3 1
3 4 3 1 3 5 3 1
3 2 3 4 3   3 2 3 4 3
6 b7 4 3   6 b7 4 3   5 b5 4 3
1 1 3 1 4 4 1 3 1 3 1 7 b7
b7 1 1 1 2 3 3 3 4 3 3 3 4 5 5 5
5 5 1 5 b7 5 1 5 2 6 b7  (play 5 in lower octave)
2 open b7 1  5 open b3 3  (tap first note, move up through octaves)
5 3 4 3   2 b7 1 b7
5 4 3 1  5 4 3 b7  5 4 3 6
1 3 4 #4 5 b5 4 3 1
b7 1 3 b7 1 3 b7 1 3 b7 1 3 5 3 1
(bend 4) 4 3 1 3 1
5 3 1 b7 5 3 1 b7 5 3 1 b7 5 3 1 7 1
2 2 1 1 3 3 1 1 4 4 1 1 5
1 b7 1 2 3 2 3 4 b5 5 b7 1
1 3   next octave >  1 b7
1 b7 7 1 b3 3 1 3 4 3 1 b7
2 bend release 1 b7   1 bend release b7 6
5 bend release 4 3   2 bend 1 b7
5 b5 4 3 4 b3 3 1 2 b2 1 b7
5 5 1 1 b5 b5 1 1 4 4 1  slide> 3 1
1 1 b7 1 1 6 1 1 b7 1 b7 1  (play 1 in lower octave)
b7 bend 1   b7 bend 1 5 4 3   b7 bend 1   2 bend 1 b7 5  (play 5 4 3 in lower octave)
2 3 2 1 3 1 b7 3 b7 1 3 1 4 3 2 1 2 3 2 1 3 1 b7 3 b7 1 3 1 5
b3 3 1 3 4 1 4 b5 1 b5 5 1 2 b7 1
b3 3 b7 4 3 1 5 4 3 2 1 b7 1
5 b5 4 3 b5 4 3 b3 4 3 b3 2 1
b7 7 1 2 1 b2 2 3 b3 3 4 b5 5
2 b2 1 3   2 b2 1 b7  2 b2 1 4   2 b2 1 5
3 4 3 2 5 4 3 2 3 4 3 1 b7
5 4 3 2 4 3 2 1 3 2 1 b7 1
b7 1 2 3 1 2 3 4 2 3 4 5
1 b7 5 6 b7 2   1 b7 1   (play 5 in lower octave)


play together (double stop):

5 3 4 4  3
1 1 2 1 b7 1
```

To create melodies for any other chord type, you can alter the above licks by changing the appropriate interval numbers to fit the interval pattern of another given chord. For example, the only difference between a dominant 7th and a minor 7th is the that 3rd is flatted in a minor 7th chord. Examine the following melody patterns to understand how dominant 7th chord licks can be altered to fit other chord types:

```
Dominant 7th chord licks:

1 3 4 3 1   1 3 4 3 1   1 3 4 3          b7 1 3 b7 1 3 b7 1 3 b7 1 3 5 3 1

Minor 7th chord versions:

1 b3 4 b3 1   1 b3 4 b3 1   1 b3 4 b3     b7 1 b3 b7 1 b3 b7 1 b3 b7 1 b3 5 b3 1
```

UNDERSTANDING HOW THIS ALL WORKS – SOME GENERAL CONCEPTS:

To make music with the above patterns, you need a chord progression as a basis. If you want to jam (improvise) with other musicians, you'll all choose a chord progression to play (or a series of chord progressions in a given order), and then take turns creating lead solos over that progression while the others play background accompaniment. When you play a song with a band, each musician plays bits of the chords that make up that song, in a way that is appropriate for their instrument (i.e., the bassist may walk or slap notes of the chords to create a bass line, the guitarist may strum chord shapes, or play licks and melodies from notes that outline those chords, the singer will sing a melody that outlines notes of those same chords, etc.). The next section of this text describes how to create chord progressions. This section describes, in a very general way, how to create interesting musical lines from chords.

When you play "rhythm" guitar, or accompaniment, you basically play collections of chord tones, typically in an unobtrusive (generally repetitive and rhythmically even) pattern, to provide harmonic background for other melodies. For guitarists, that generally means strumming chords and playing bits of arpeggios in a simple rhythmic pattern. When you play "lead" guitar, you typically try to create more interesting melodies with some sort of singable character and/or technical instrumental interest. In this text the focus is on creating lead guitar lines.

Vocabulary:

Learning to play and create music is very much like learning to speak a language. Just as you begin learning a language by repeating and speaking isolated words and phrases at appropriate moments, so do you learn to create music by memorizing, repeating, and applying short melodic fragments in appropriate places against given chord progressions. Just as you string together words to form and express complex ideas, so will you learn to join together small bits of musical phrases to create longer compositions. Just as a strong vocabulary of spoken words can help you express your ideas and feelings at any given moment, a rich vocabulary of learned musical phrases can help you express your musical impulses at any given moment.

With spoken language, you *don't* improve your speaking skills by *creating* new words. You simply become more proficient at manipulating and putting together the *existing* elements of a language, in a way that is constructive and which makes sense. No single word completely expresses all your ideas. The same is true with musical language. There are no magical little phrases that completely express all your musical impulses. It's about how you put various little melodic fragments together to create an expressive whole. You can imagine improvising a melody with a band very much like having a spoken conversation with a group of people. When you have a conversation with others, you don't speak from a written script. Instead, you string together words in your existing vocabulary to express ideas and thoughts that flow freely within the conversation. The same is true in a musical improvisation. You string together bits of musical vocabulary to construct a communicative and interactive musical expression. The only difference between improvisation and composition is that composed pieces are typically more finely crafted – more like a written out speech, or a fixed spoken presentation. Learning to perform compositions by other musicians is very much like memorizing and reciting a speech by another person. Learning to improvise generally starts more simply – just as you can learn to speak simply in a foreign language with a small vocabulary, so can you start to improvise with a small collection of learned musical phrases. As you acquire new vocabulary and work at putting phrases together, you become skilled at creating more finely structured and expressive musical thoughts.

With that perspective in mind, a fundamental part of learning to improvise and write music is the acquisition of basic vocabulary. You need to learn a large collection of existing musical words and phrases in order "speak" fluently. The collection presented so far in this text will take many months to really master, and will provide a rich and complete foundation. To become a capable musician, it's up to you to *really practice* putting them together in ways that flow naturally. This takes a lot of time, repetition, and experimentation. Just as with learning to speak a language, you need to practice "speaking" improvised musical ideas regularly, in an applied way. Just as you can study a foreign language for years, if you don't actually speak it regularly in an applied way, you won't become fluent. The same is true with music. If you don't practice improvising regularly against chord progressions, you won't become fluent. And, just as with spoken language, once you do become fluent, musical improvisation and composition becomes very easy, natural, intuitive.

To build your musical skills in an organized way, analyze music you like in a theoretical context. Examine the chord progressions on which the music is based. Look at how the chords are used to create a rhythmic background. Look at how intervals of the chords are employed, along with passing tones, to create melodies (both vocal and instrumental). Your goal as a creative musician is to build a vocabulary of rhythmic patterns, melodic interval moves, and chord progression patterns that you can mix freely to create infinitely varied and interesting musical sounds. This text provides the necessary information and materials, but you will continue learning, acquiring, and internalizing favorite materials for the rest of your life.

Understanding More About Creating Melodies - Pitch Choice:

Devising melodic movements with an interesting mix of short and long jumps from low to high pitches is an important part of creating "good" music. Mixing short and long jumps from high to low, and weaving up and down through pitches generally creates more interesting musical variety than staying in one predictable set of notes. Passing tones are also very important in creating harmonic and melodic "color" interest. This may seem surprising, but in just about any chord progression, at any moment, any note on the guitar can be played, as long as it moves towards a chord tone in a musical way. If you focus on playing notes that come from the intervals of a given chord in a progression, you won't play any wrong notes, and as long as you "resolve" any extraneous passing tones by landing on chord tones. Especially if you pass though non-chord tones quickly and on unaccented beats, you'll create interesting, good sounding music. (If you land on, and rhythmically accent, non-chord tones, you'll create sounds that are dissonant with a given accompaniment chord progression). That's a fundamental concept that has been used to create music of every style, for hundreds of years.

In our musical culture, it's generally accepted that "good", aesthetically pleasing, interesting sounding music is created by taking a chord progression, creating a basic rhythmic background of unobtrusive chord tones, and making a melody that has all the characteristics of rhythmic, pitch (large leaps and small jumps), and harmonic (interesting passing tone movements) creativity. This is the thing that takes years of experience, some innate talent, and an inherent musical drive, to accomplish effectively. Years of experience are perhaps most important part of the equation. By playing thousands of pieces of music, you learn to intuitively understand what musical elements combine to create music that sounds "good" and satisfying to you. You can however, begin to experiment with your own creations, just by playing a chord progression and finding the notes of each chord on the fret board. By using your own existing rhythmic impulses, and by exercising your own creativity to jump from note to note on the fret board in varied patterns, you can begin to explore real, genuinely effective improvisation and composition, using only the information in this document.

Understanding More About Creating Melodies - Rhythm:

The use of rhythm is perhaps the most important element required to create interesting musical lines. Combinations of long and short notes, with accents at interesting points in the rhythmic meter are what create moving sounds with physical impetus and musical life. When you attempt to create any music, whether improvised on the spot, or more finely crafted, a fundamental requirement is the creation of interesting rhythm patterns. Rhythm patterns are created by subdividing (doubling and redoubling) the basic beat of a given meter (i.e., a basic beat pattern of 4 beats to a measure can be doubled into 8th and 16th note subdivisions), and then any variety of those beats can be OMITTED, so that an interesting, moving, and varied rhythm pattern is created. Triplet, quintuplet, and other subdivisions can also be used to create interesting rhythms. Many rhythm patterns are learned and practiced. As with every other aspect of music, rhythmic understanding and creativity comes only from lots of experience playing music. By playing thousands of pieces of music over the course of years, you'll become very familiar with common rhythm patterns that are used in all kinds of music. Intuitive creative rhythmic ability, however, is possible for most students. Most people can devise an improvised rhythmic pattern when presented with a given accompaniment. This skill can be developed by simple exploration and trial & error, and it only improves with practice and experience. It is fundamental to have a "rhythmic sound" in your head when attempting any creative music making over a given chord accompaniment. Fitting notes into such a created rhythmic pattern is the basis for all creative music making. An understanding of music theory only helps you to find notes on the instrument that fit within the given chord progression – using appropriate shapes. To bring life to those notes, a rhythmic impulse is required. A complete study of rhythm is typically the domain of beginner-intermediate music lessons, and a mastery of rhythm, both in physical, technical ability and conceptual understanding, is only achieved by playing lots of music. For now, understand that any creative musical attempt should involve creating a rhythm pattern, and that notes should be fit into that rhythm pattern, using the guidelines in this text.

CHORD PROGRESSIONS - ROMAN NUMERALS:

Just as notes are put together to form chords, using interval number patterns, chords are also put together into progressions that are labeled by interval number patterns. Because music in our culture is basically derived from chord progressions, this is a very important part of understanding music as a whole. When writing out chord progressions, the root notes of chords are typically labeled by numbers written as roman numerals. Large roman numerals represent major chords. Small roman numerals represent minor chords. Here are all the roman numerals used to label musical chord progressions:

```
        1       2       3       4       5       6       7       (8=1)
Large:  I       II      III     IV      V       VI      VII      I
Small:  i       ii      iii     iv      v       vi      vii      i
         \     /  \     /   \    /  \    / \     /  \     /   \    /
         2 frets  2 frets   1 fret  2 frets  2 frets  2 frets   1 fret
          apart    apart     apart   apart    apart    apart     apart
```

Below are some examples of chord progressions written out as roman numerals. The "key" note of the progression is determined by wherever you put the number "1". All the other notes in the key land on numbers that are outlined by the interval fingerings presented earlier.

```
Example 1:          I7  IV7   V7    I7
Example 2:          vi  IV    I     V
Example 3:          I   bVI   bVII  I
Example 4:          I   I7    IV    iv
Example 5:          I   iii   IV    V     I   ii    IV    I
Example 6:          vi  ii    V     I     IV  bVII  III7  III7
Example 7:          I   bIII  IV    III7  vi  II7   V7    I
Example 8:          i   biii  #iv   #v    <-- NOT a common set of chords
```

```
Example 1 in the key of A:          A7     D7     E7     A7  (starting at the 5th fret)
Example 1 in the key of G:          G7     C7     D7     D7  (starting at the 3rd fret)
Example 1 in the key of C:          C7     F7     G7     C7  (starting at the 8th fret)

Example 2 in the key of A:          F#m    D      A      E
Example 2 in the key of G:          Em     C      G      D
Example 2 in the key of C:          Am     F      C      G

Example 3 in the key of A:          A      F      G      A
Example 3 in the key of G:          G      Eb     F      G
Example 3 in the key of C:          C      Ab     Bb     C

Example 4 in the key of A:          A      A7     D      Dm
Example 4 in the key of G:          G      G7     C      Cm
Example 4 in the key of C:          C      C7     F      Fm

Example 5 in the key of A:          A      C#m    D      E      A      Bm     D      A
Example 5 in the key of G:          G      Bm     C      D      G      Am     C      G
Example 5 in the key of C:          C      Em     F      G      C      Dm     F      C

Example 6 in the key of A:          F#m    Bm     E      A      D      G      C#7    C#7
Example 6 in the key of G:          Em     Am     D      G      C      F      B7     B7
Example 6 in the key of C:          Am     Dm     G      C      F      Bb     E7     E7

Example 7 in the key of A:          A      C      D      C#7    F#m    B7     E7     A
Example 7 in the key of G:          G      Bb     C      B7     Em     A7     D7     G
Example 7 in the key of C:          C      Eb     F      E7     Am     D7     G7     C

Example 8 in the key of A:          Am     Cm     Fm
Example 8 in the key of G:          G      Bbm    D#
Example 8 in the key of C:          C      Ebm    G#m
```

Every piece of music you've ever heard comes from a very small set of roman numerals. The most common chord progressions in popular music are made up of I, IV, V, vi, and bVII chords. More than half the music you here on the radio is created from those 5 chords alone! All the most commonly used chords are categorized as follows (you see them in the progressions above):

```
    DIATONICS:            I     ii    iii    IV     V(7)  vi
    BORROWED CHORDS:      bVII  bIII  bVI   (bV     bII)
    BLUES CHORDS:         I7    IV7   V7
    SECONDARY DOMINANTS:  I7    II7   III7   VI7    VII7
```

Diatonic chords are used in virtually every type of music. They are most common in traditional, folk, classical, and pop music. The I IV and V(7) chords are used in virtually every piece of music you hear, regardless of style (V can be either major or dominant). Learning those three chords in every key is fundamental to understanding and recognizing chord patterns of every type. Borrowed chords are used heavily in rock music. You'll see them used regularly with distorted guitar sounds in heavy mainstream pop music. You'll also see them used in bluegrass and other modal styles. Blues progressions are defined by basic dominant 7th chords (also dominant 7ths with added 9th, 11th, and 13th intervals) on the numbers I, IV, and V. You'll see them most in "bluesy" music. Secondary dominant chords are 7th (9th, 11th, and 13th) chords that come from other keys ("secondary keys"). They create an interesting, unexpected harmonic "twist" - a bit of temporary harmonic tension when added to a chord progression. You'll see secondary dominants most in jazz and classical music, but also in pop ballads that have a "playful" sound reminiscent of ragtime music and the like. Secondary dominant chords have a strong tendency to resolve (move) in the following ways when found in real music:

```
I7   ->  IV
II7  ->  V or V7
II7  ->  V, V7, and sometimes IV
III7 ->  vi or VI7, and sometimes IV
VI7  ->  ii or II7
VII7 ->  iii or III7
```

Knowing those guidelines is useful when playing by ear, composing, and/or improvising, because they provide a way of knowing the most likely next chord in any sequence (without guesswork), and thus provide a further structured approach to learning and deciphering chord progressions in which they're involved.

Minor Chord Progressions:

Minor chord progressions tend to sound sad, dark, and more serious than other types of chord progressions. To create a minor chord progression, just START and end on a vi chord, and use any of the chords from other categories to form a progression. Minor chord progressions typically contain the secondary dominant "III7" chord. That chord helps to create a harmonic focus on the vi chord (because III7 has a tendency to resolve to vi - see the notes in the previous section). It's also possible to label minor chord progressions by starting on a "i" minor, and using an entirely different set of roman numerals to label all other possible chords around that tonic - that is not the method used in this text, because it introduces much additional and unnecessary memorization, and tends to further confuse an already complex topic.

MODULATION:

Modulation is defined as the changing of key. It basically involves playing roman numerals around one given root note, and then shifting to roman numerals around a different key note. Key changes are often used to create harmonic variety within songs and compositions of all types. Starting a song with the chords I, IV, V7 in the key of G (G, C, and D7), then playing the same chords in the key of A (A, D, and E7) is called a modulation from G to A.

Below are a number of typical modulation patterns found in common use:

Direct: Moving directly from one key to another, without any specific transitional chords. The shift is abrupt, from one key to another. This type of modulation is common in popular music. Most often keys are modulated up by half or whole step to create a sense of heightened energy. A song may start in the key of C, and then modulate to D and then E at the end to create a dramatic finish.

Relative: Remember, a minor key can be defined as a progression starting on the vi chord - A minor is the vi chord in the key of C major. The scales C major and A natural minor contain the exact same notes. It is common to start and end a progression on vi for one section of a tune, and then start and end a progression on I for another section of the tune. Although this is not a true modulation, it creates a sense of harmonic shift between the two modes. Another common move is between major keys with the relative minor-major (vi-I) root note relationship. If C major and A minor are relative major and minor keys, for example, C major and A major are relative major keys (they have the same root notes, defined by the I-VI relationship). This type of shift is a true modulation between two totally different sets of chords.

Parallel: Progressions often move between major and minor keys with the same root note. A song may start in the key of C major, for example, and shift to the key of C minor. C minor is the same key as Eb major (where cm = vi, Eb = I), so there is a totally different set of chords used in this type of modulation (one in which C=I, and one in which Eb=I).

Pivot Chord: V7 chords are often used to move to new keys. Before playing the I of the new key, the V7 of the new key is played at the end of a progression in the starting key. For example, to switch from the key of C to the key of Ab, an Eb7 chord can be placed at the end of the C progression to make the change sound more natural. Remember, the V7 chord has the strongest tendency of any chord to move towards I (Eb7 = V7 in the key of Ab). Secondary dominant chords are often used to make this type of progression away from the starting key. III7, for example, often moves to vi (see the tendency guidelines given earlier). If you resolve the III7 to VI instead (not a chord in the starting key), it facilitates a shift in which VI can be treated as a new I (a "parallel major" modulation).

In the key of C, such a progression would look like:

```
Starting key of C:          I ->  III7 ->  VI
                            C ->  E7   ->  A  ->  C#7 -> F#m ...
In the new key of A:                       I  ->  III7 -> vi ...
```

ii -> V7 Progressions: Virtually every tune in the jazz idiom contains "ii-V" progressions. These two chords are often played through quick successions of keys:

Bb:				Db:				F:		
ii	V7	I	I	ii	V7	I		ii	V7	I
Cm7	F7	Bb	Bb	Ebm7	Ab7	Db		Gm7	C7	F

iimin7(b5) -> V7(alt) Progressions: This is the minor version of the ii-V progression. It typically resolves to a minor chord (thought of here as i ("minor 1"), but can also be thought of as vi in the relative major). This progression contains a half diminished chord (m7(b5)), followed by an altered dominant (often an extended chord, with a b9/#9 and/or a b5/#5) :

Em:					Dm:			
i	iim7(-5)	V7(alt)	i		iim7(-5)	V7(alt)	i	
Em7	F#m7(-5)	B7(b9)	Em7		Em7(-5)	A7(b9)	Dm7	

REFERENCE - FULL FRET BOARD FINGERINGS AND INTERVAL PATTERNS:

Here is the full set of intervals found on the guitar fret board. This is a movable diagram, and can be slid to any fret on the neck. In other words, the number 1 can be put on any root note, and all the other interval numbers can be found in relative positions defined by the diagram below:

```
1st string:    1 - 2 - 3 4 - 5 - 6 - 7 1 - 2 - 3 4 - 5 - 6 - 7 1
2nd string:    5 - 6 - 7 1 - 2 - 3 4 - 5 - 6 - 7 1 - 2 - 3 4 - 5
3rd string:    - 3 4 - 5 - 6 - 7 1 - 2 - 3 4 - 5 - 6 - 7 1 - 2 -
4th string:    - 7 1 - 2 - 3 4 - 5 - 6 - 7 1 - 2 - 3 4 - 5 - 6 -
5th string:    4 - 5 - 6 - 7 1 - 2 - 3 4 - 5 - 6 - 7 1 - 2 - 3 4
6th string:    1 - 2 - 3 4 - 5 - 6 - 7 1 - 2 - 3 4 - 5 - 6 - 7 1
```

Here is the full set of note names found on the guitar fret board - the 1st (thinnest) string is on top, the 6th (thickest) string is on the bottom. Notes repeat every 12 frets:

	Open	1	2	3	4	5	6	7	8	9	10	11	12
1st string:	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E
2nd string:	B	C	C#/Db	D	D#/Eb	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B
3rd string:	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E	F	F#/Gb	G
4th string:	D	D#/Eb	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D
5th string:	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E	F	F#/Gb	G	G#/Ab	A
6th string:	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E

SCALE FORMULAS:

Major:
1 2 3 4 5 6 7

Minor Pentatonic:
1 b3 4 5 b7

Blues:
1 b3 4 b5 5 b7

Major Pentatonic:
2 3 5 6

Mixolydian:
1 2 3 4 5 6 b7

Dorian:
1 2 b3 4 5 6 b7

Lydian:
1 2 3 #4 5 6 7

Locrian:
1 b2 b3 4 b5 b6 b7

Natural Minor (Aeolian):
1 2 b3 4 5 b6 b7

Harmonic Minor:
1 2 b3 4 5 b6 7

Melodic Minor:
1 2 b3 4 5 6 7 (ascending)
1 2 b3 4 5 b6 b7 (decscending)

Bebop Dominant:
1 2 3 4 5 6 b7 7

Bebop Major:
1 2 3 4 5 #5 6 7

Bebop Minor:
1 2 b3 3 4 5 6 7

Diminished:
1 2 b3 4 b5 b6 6 7

Whole Tone:
1 2 3 #4 #5 b7

Lydian Dominant:
1 2 3 #4 5 6 b7

Chromatic (every possible note):
1 b2 2 b3 3 4 b5 5 b6 6 b7 7

CHORDS:

Major Triad
1 3 5

Minor Triad
1 b3 5

Power Chord ("5 chord")
1 5

Major 7th (maj7, M7)
1 3 (5) 7

Minor 7th (b3, b7) (min7, m7, -7)
1 b3 (5) b7

Dominant 7th (b7) (no maj or min label)
1 3 (5) b7

Half Diminished (m7b5, min7(b5), -7(-5), ø7)
1 b3 b5 b7

Diminished (dim7, o7)
1 b3 b5 (6 - also called bb7)

Extended Chords - 7th chords with added 9, 11, 13 intervals (9=2, 11=4, 13=6). ONLY the highest extension is needed.

Altered Chords: chords with a sharped or flatted intervals (i.e., #5 or b5, and/or #9 or b9). Notated by parentheses after a chord label, i.e., G7(b5). Flats are often indicated by minus signs ("-"), and sharps by plus signs ("+"). Also, min(maj7) = 1 b3 5 7 (instead of b7).

Suspended Chords: "sus" means replace the 3 interval with either a 2 or 4, as indicated. If no number is given (2 or 4), then sus means "4". For example, Csus4 = 1 4 5, C7sus = 1 4 5 b7.

"Add" Chords: triads (major and minor) with one or more added intervals (6 and/or 9). The difference between add chords and extended chords is that add chords do not contain a 7. All notes are required in add chords. For example, Cadd9 = 1 3 5 9, Cadd6 (C6) = 1 3 5 6), C6/9 = 1 3 5 6 9, C-add9 = 1 b3 5 9

“Slash” Chords: put the note after the slash in the bass (the lowest note). C/B = 1 3 5, “B” in bass.

| E7(b9) | Am9 | Am7/D D7(b9#5) | Gmaj7 Am7 | Bbdim7 Bm(b6) | Gm7 | Db7(#5) C7(b9#5) | Fmaj7 Bb7
|| F6/9 | Fm Fm(maj7) | Dm7(b5) G7(b9b5) | Cmaj7 Dm7 | Em7 Am7 | D7(-9+5) | G9sus4 G9 | F#Ø7 Fm7
|| Em7 Eb7sus4 | Dm7 Dbmaj7 | Cmaj9(#11) ||