



# The Rock Rattler

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## Presidents Message

Members,  
Well, here we are in February already.

It seems as though we will have to hurry if we want to get done all the things we want to do before hot weather gets here. Time flies these days.

We will be going on field trips soon, and I hope we all have lots of fun and find many treasures. Just remember to be careful and be safe while searching for those treasures. Also, we all need to get together and on the same page with our clubhouse.

I am looking happily toward our meeting on Tuesday, so that I can get my rockhound buddies fix.

I hope this year will be our best with the most fun, Tuesday then.

*Larry Maguire*  
*President*

### Next Meeting

When:	February 4, 2014
Time:	6:30 pm – 8:00 pm
Where:	Bossier City Library Historical Building Bossier City, La
Program:	Discussion of upcoming year events
Refreshments:	Edna House
Door Prizes:	Linda Leedom

## **Minutes of Meeting**

**January 7, 2014**

Opening: Antony Thomas  
Pledge of Allegiance Wil House  
Prayer: Wil House

### **Business Discussed:**

- Idea sheets for class suggestions and field trip suggestions were passed around o members to give input
- Building Update
  - Roof has been added
  - Electric pole has been put in
  - We need volunteers that can help get the buildings ready for use
- Field Trips
  - Next field trip will be to Columbia, LA for searching of megladon teeth
    - Everyone will need to complete a liability form at next meeting
  - For the field trip for March, we will be going to Mt Ida to the Wegner mines
- New idea for the year for refreshments and door prizes
  - Door Prizes---signup sheet for each month. One person will bring a minimum of 5 door prizes to each meeting
  - Refreshments—signup sheet for each month
- Treasury Report given by John Autry
- Show dates are Aug 16-17

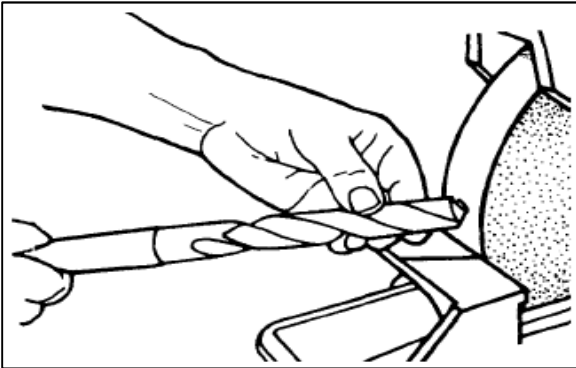
Members in attendance: Susan Fortenberry, Del Glasner, Edna House, Jeanette White, Sharron Thomas, Sue Autry, Nina Hustus, Antony Thomas, Leland White, John Autry, Wil House, Linda Leedom, Don Gednetz, James Stroud, Tori McCauslin, Gwynne Lowe, David Lowe, Teresa Crawford, Diane Hendricks, Jody Hendricks

# tips and tricks

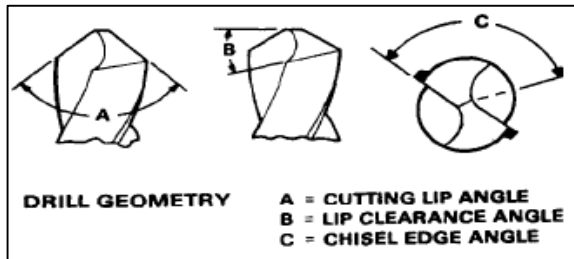
## SHARPEN A TWIST DRILL

Following is too much information! But, everything you will ever need to sharpen a twist drill in there!! After my simple demonstration, you should have the basics down to quickly and easily accomplish a sharpening, however, if you are having problems, read through this tutorial and it should help.

Twist drills become dull and must be re-sharpened. The preferred method of re-sharpening a twist drill is with a machine designed for that purpose. However, as you do not have such a machine, the offhand method can be used (Figure 4-10). This method requires that the operator have a knowledge of drilling geometry (Figure 4-11) and how to change drill angles as needed for any drilling job.

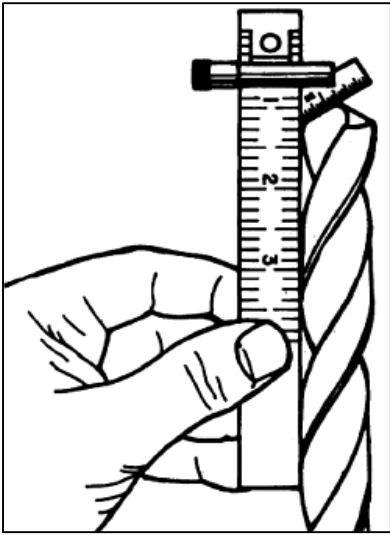


Offhand method of drill sharpening.



### Drill geometry.

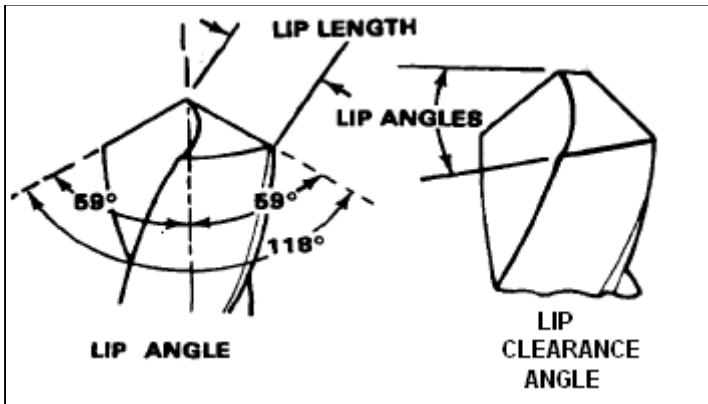
Tools needed are a utility or bench grinder with a dressed wheel and a drill point gage or protractor head on the combination square. The drill point gage is set at  $59^\circ$  and adjusted along the steel rule to fit the drill to be sharpened. The cutting lips must be of the same angle, the lip clearance angle must be within a specific degree range, and the cutting lips must be of an equal length. There are several basic characteristics that all twist drills must have to cut properly. The following will cover those characteristics.



### Checking the tip angle.

#### PRECHECK

Check the condition of the drill for chipped and cracked lips or edges that must be ground off during the sharpening process. The suggested method is to grind the lip angle first, then concentrate on grinding the lip clearance angle, which will then determine the lip length. The usual lip angle is an included angle of  $118^\circ$  ( $59^\circ \times 2$ ) which is the lip angle of general purpose drills. Use the drill point gage frequently to check lip angle and lip length. When grinding, do not allow the drill to become overheated. Overheating will cause the drill edges to become blue which is an indication that the drill's temper has been lost. The blue area must be ground completely away to reestablish the drill's temper. If a drill becomes too hot during sharpening, the lips can crack when dipped into cold water or coolant.

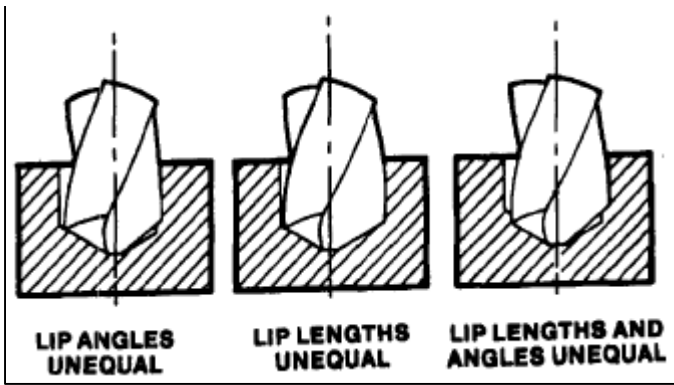


#### DRILL POINT

When grinding the lip angle, use the drill point gage and grind one lip perfectly straight and at the required angle (usually  $59^\circ$ ). Then flip the drill over and grind the other lip. Once the angle is established, then the lip clearance angle and lip length can be ground. If both lips are not straight and of the same angle, then the chisel edge will not be established. It is important to have a sharp and centered chisel edge or the drill will not rotate exactly on its center and the hole will be oversized. If the drill point is too flat, it will not center properly on the workpiece. If the drill point is too steep, the drill will require more power and cut slowly. When the angles of the cutting lips are different, then the drill will only have one lip cutting as it revolves. The hole will be oversized and the drill will wear very rapidly.

#### The drill point.

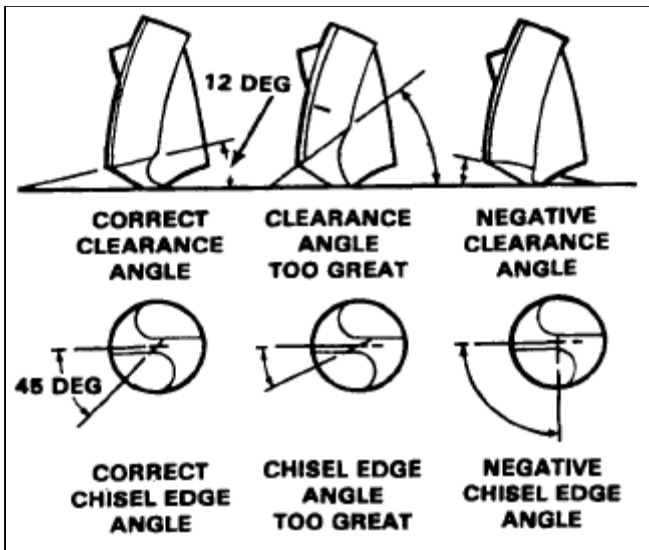
When both the angles and the length of the angles are incorrect, then excessive wear is put on both the drill and machine, which will result in poor workmanship.



**Results of improperly ground drills.**

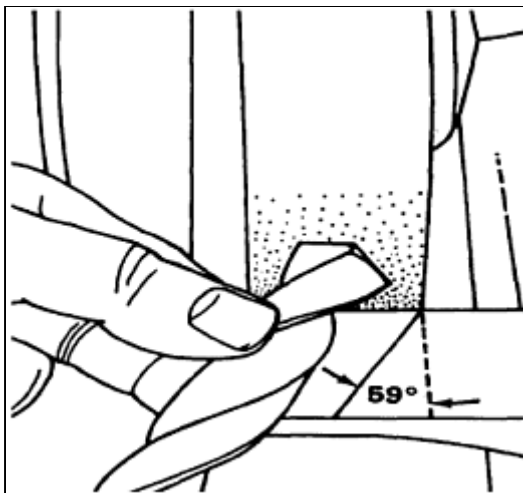
**CLEARANCE ANGLE**

When grinding the lip clearance angle, relief must be given to both cutting edges allowing them to enter into the workpiece to do the cutting. General purpose drills have a clearance of 8° to 12°. The chisel edge of a correctly ground drill should be at an angle of about 45° with the line of the cutting edges. The angle of the chisel edge to the lips is a guide to the clearance. Too much clearance will cause the drill to break down because of insufficient support of the lip, and there will not be enough lip thickness to carry away the generated heat.



**Lip clearance angle is directly proportional to the chisel point.**

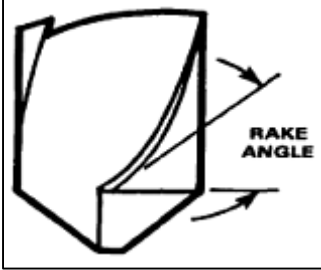
Too little clearance will result in the drill having little or no cutting edges, and the increased pressure required to feed it into the hole will cause the drill to break. By looking straight onto the cutting tip of the drill, the operator can see if the chisel edge is correct. If the chisel edge is correct at 45° to the lips, then it is an indication that the lip clearance angle is correct. An incorrect chisel edge is usually produced by holding the drill at an incorrect angle to the wheel when grinding. A good guide is to hold the drill parallel to the ground, and make slight adjustments.



## Adjusting the drill for grinding the top angle.

### RAKE ANGLE

The angle between the flute and the axis forms the cutting edge is known as the rake angle. Generally, the rake angle is between 180 and 450, with 30° being the most common. Drills used on armor plate or other very hard materials need a reduced rake angle to increase the support behind the cutting edge. Soft materials, like brass and bronze, also use a reduced rake angle to prevent the drill from grabbing. The rake angle partially governs the tightness with which the chips curl and the amount of space they occupy. If the rake angle is too small, the lips may be too thin and break under the strain of drilling. Too large of a rake angle makes the drill chatter and vibrate excessively.



### Rake angle.

The web of a drill is made thicker toward the shank to strengthen the tool. In smaller size drills, the difference is not noticeable, but in larger drills, when the point is ground back by repeated sharpening, the thickness of the web becomes greater and the chisel edge of the drill becomes wider. This causes the chisel edge to scrape on the bottom of the hole and requires excessive pressure to be applied to the drill. This can be corrected by thinning the web. The point is ground thinner on a thin grinding wheel with a rounded face to fit into the flute. An equal amount of metal should be ground from each flute. The web should not be ground too thin as this may weaken the web and cause the drill to split in the middle.

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## Field Trip Info

Date: Feb 8, 2014

Location: Copenhagen Preserve, Columbia, LA

leaving the library at 7 am. We will then drive to the McDonalds on Well Road in W. Monroe. If you are not able to meet at the library you may meet us at the McDonalds. Please have your waiver signed before you arrive. We will have copies at the Feb meeting. This will save some time.

Date: March 15, 2014

Location: Wegner Mine, Mt. Ida, AR

If you are interested in attending this field trip, you will need to reserve your space by paying the \$30 entry fee at the Feb meeting and fill out the liability form. We must have at least 10 people attending to be allowed to enter the private dig in the Phantom mine. If you are paying by check, please make check out to Sharron Thomas. If you are unable to attend and would like to get crystals from the mine get with Tony.

# Field Trips for 2014

Anyone planning to attend a field trip must notify field trip coordinator that you will be attending.

If you are unable to attend a field trip but would like something brought back just ask. Arrangements can be made.

## February 15

Columbia, LA – Megladon Sharks Teeth

## March 8

Mt. Ida, AR – Wegner Mine for crystals. 10 person minimum

## April 12

N. Sulfur River – Fossils and petrified wood

## June 14

Mississippi – Homachita River. Banded Agate

## July 12

Ashdown, AR – Fossils

August 23, 24 (tentative date--waiting on confirmation from host group)

Jasper, Tx – Petrified Wood. Fee of \$30 must be paid by June meeting

September and October- Open—if you have an idea give info to field trip coordinator

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## Upcoming Show Dates

### February

22-23—JACKSON, MISSISSIPPI: Annual show; Mississippi Gem & Mineral Society; Mississippi Trade Mart; State Fairgrounds; Sat. 9-6; adults \$5, students \$3; dealers, gems, fossils, minerals, beads, jewelry, demonstrators, faceting, flint knapping, wire wrapping; contact Keith Peacock, 176 Tazan Ave., Florence, MS 39073, (601) 863-6535

### March

8-9—PASADENA, TEXAS: Annual show; Clear Lake Gem & Mineral Society; Pasadena Convention Center; 7902 Fairmont Pkwy.; Sat. 10-6, Sun. 10-5; adults \$7, students (6th-12th grade) \$3, children (under 12) free; 32 dealers, lapidary equipment, rocks, minerals, gems, jewelry, rockhound equipment, books, swap area, lapidary and jewelry making demonstrations, Scout merit badge workshops, fossil exhibits, children's gem mine and hands-on workshops; contact Sara Chelette, CLGMS, PO Box 58072, Houston, TX 77258; e-mail: sara\_chelette@sbcglobalnet.com; Web site: [www.clgms.org](http://www.clgms.org)

### April

12—NORTH LITTLE ROCK, ARKANSAS: Annual show; Central Arkansas Gem, Mineral & Geology Society; Elder Johnson Pavilion, Burns Park; Military Dr.; Sat. 9-4; free admission; buy, sell or trade rocks, minerals or fossils; contact Mike Austen, PO Box 241656, Little Rock, AR 72223, (501) 868-4553; e-mail: [steelpony@aol.com](mailto:steelpony@aol.com); Web site: [www.centralarrockhound.org](http://www.centralarrockhound.org)

# DUES

ARE DUE AT THE NEXT MEETING  
Please confirm address, phone numbers, date of birth  
and email address with Sharron or John.

## 2014 Officers and Board Members

Position	Name	Contact #	Email Address
President	Larry Maguire	(318) 284-3544	<a href="mailto:oldhd68@gmail.com">oldhd68@gmail.com</a>
V. President	Antony Thomas	(318) 518-0907	<a href="mailto:adslthomas@gmail.com">adslthomas@gmail.com</a>
Secretary	Sharron Thomas	(318) 423-2130	<a href="mailto:adslthomas@gmail.com">adslthomas@gmail.com</a>
Treasurer	John Autry	(318) 210-9416	<a href="mailto:john.autry451@gmail.com">john.autry451@gmail.com</a>
Board Member	Edna House	(318) 949-9765	<a href="mailto:edna.house@gmail.com">edna.house@gmail.com</a>
Board Member	Nina Hustus	(318) 219-9136	<a href="mailto:pochance@bellsouth.net">pochance@bellsouth.net</a>
Board Member	Lyn Simms	(318) 347-8621	<a href="mailto:lynsimms@gmail.com">lynsimms@gmail.com</a>
Field Trip Coordinator	Antony Thomas	(319) 518-0907	<a href="mailto:adslthomas@gmail.com">adslthomas@gmail.com</a>

The Rock Rattler is a monthly publication of the Ark-La-Tex Gem and Mineral Society located in Bossier City/Shreveport, Louisiana. The society is affiliated with the American Federation of Mineralogical Societies (AFMS) and the South Central Federation of Mineralogical Societies (SCFMS). Permission is given to reproduce this document all or in part with the proper credit given. Articles with no byline are by the editor.

The Ark-La-Tex Gem and Mineral Society is a nonprofit educational organization devoted to promoting interest in the various earth sciences, particularly the art of lapidaries and their related fields. Informational speeches presented at area schools and the presentation of awards and cash prizes at the Public School Earth Science Fair are two of the ways the society achieves its goals. Another contribution to the community is the annual show, held at the Bossier Civic Center, 620 Benton Rd, in Bossier City. This "Jewelry, Gem, & Mineral Show" functions as a fund raiser for our group and a venue for the demonstrations of gold and silver casting, jewelry making, bead stringing, faceting, cabochon making, and flint knapping (the art of flaking stone tools such as arrowheads). The monthly meetings included programs of interest to rock hounds, information from the Rock Rattler, and jewelry making classes complete the educational objectives of the club.



**Arklatex Gem & Mineral Society**

**PO Box 6633**

**Bossier City, LA 71171-6633**