**Troop 333 Scouts BSA**

**Firem’n Chit Course**

**Instructor’s Notes**

**Introduction:** The Firem’n Chit card is granted by Troop 333 to Scouts who have demonstrated the proper procedures for starting, maintaining, and extinguishing cooking fires, campfires, stoves and lanterns and who have successfully passed the Firem’n Chit Quiz. Scouts are not permitted to start, maintain, or extinguish troop lighting devices unless they have successfully completed the Troop 333 Firem’n Chit Course. A Firem’n Chit card will be issued by the instructor at the end of the training to Scouts who successfully complete the course.

**Objective:** The purpose of this Course is to train Scouts on:

a) The proper method for working with campfires, cooking fires, propane stoves and lanterns.

b) How to build campfires.

c) How to build cooking fires.

d) How to light lanterns and propane stoves.

**Materials:**

Materials needed for the course are:

- Matches -Water Bucket

- Magnifying Glass -Shovel

- Friction Fire Starter Kit (flint & steel) -Butane Lighter

- Tender Samples -Fuzz Stick

- Kindling Samples -Sample Firem’n Chit Card

- Propane Lantern

- Propane/Butane Stove

- Backpacking stove

**Firem’n Chit Card:** Discuss the front and backside of the Firem’n Chit card. Have one card to pass around. Discuss the privileges and rules as they are listed on the front and back of the card. Like the Totin’ Chip Card, the Firem’en Chit Card must be carried with the Scout on all District, Council or National Scout outings. Troop 333 does not require the Scouts to carry the card on Troop only outings.

**Firem’n Chit Responsibilities:** (listed on the back of the card)

a) I have read and understand fire use and safety rules from the Boy Scout Handbook.

b) I will secure necessary permits (regulations vary by locality).

c) All flammable vegetation must be clear at least 5 feet radius in all directions from fire (total 10 feet in diameter).

d) Fire must be attended to at all times.

e) Fire-fighting tools must be readily available (shovel and water/dirt/sand).

f) Fire must cold to the touch before it is left.

g) I subscribe to the Outdoor Code and Leave-No-Trace camping.

**Firem’n Chit Privileges:** Firem'n Chit privileges can be taken away if a Scout fails in his responsibility. Corners are cut from the Firem’n Chit card for each infraction. If four corners are cut away or you conduct a serious infraction with fire, stove, or lantern, the card is taken away. You will have to re-earn your card by re-taking this course. You may not manage a Troop campfire, cooking fire, or light a lantern or stove without having re-earned your Firem’n Chit card.

**Fire Safety Rules**

• Do not build a fire when conditions are too dry or too windy. The Ranger in a park will usually post a “No Fire” sign.

• Build a fire ring or dig a pit. Try to use existing fire rings or pits when available. Fire rings should be surrounded by dry rocks. Rocks from a river or lake may contain water and may explode when heated.

• If you are removing sod to make a fire pit, take the sod out in squares. The squares should be dug out at 6” in depth. Save the sod to re-install later. Place sod in a shady location with the grassy side up.

• Always make sure you have at least a gallon of water (or plenty of sand or dirt) and a shovel available near the fire for safety.

• Clear a 5 foot radius area encircling the fire (10 foot diameter). Clear the area down to the bare soil, this includes removing any items that may be tripped over. Check above the fire ring to make sure there’s no flammable vegetation. Ensure that fires are a safe distance from tents, tarps, ropes, propane and other fuels, bushes, trees, and any other flammable materials.

• Never have a flame in a tent, including lit matches, propane lanterns, candles or stoves. This includes tent vestibules even if they are ventilated.

• Do not play with matches.

• Do not wave or throw burning sticks. Once a stick is lit, it must stay in the fire.

• Do not put rocks from streams, lakes or ponds in or around a fire - these may have water trapped inside and can explode and cause injuries.

• Do not put sealed cans in the fire - these may explode and cause injuries.

• Do not put plastic in a fire - it releases dangerous fumes and will stick to the skin causing severe burns. Be very careful with marshmallows as well.

• Do not jump over, wrestle around, or run near fires.

**When and Where to Build your Fire**

• It is much easier to light and cook on a propane cooking stove than to build and cook on a cooking fire.

• Campfires should if possible be built in locations where previous campfires have been built. Fires leave scars with long lasting effects on the Earth. Fire destroys all of the minerals in the soil. Making a new fire pit should be your last choice.

• Some localities or campgrounds require a permit to build an open fire. You need to know the local rules before you build a fire.

**General Information on Fires**

• The three things needed for a fire are: oxygen, fuel

and heat.

• The three types of firewood are: tinder (dryer lint, wood shavings, birch bark, tinder fungus, pine resin, dry grass, dry pine needles, and wood shavings (store in a dry plastic Ziploc baggie), kindling (fuzz sticks, small pieces of wood, up to the diameter of one

finger), and fuel wood (various sizes of wood, larger than kindling). Have all fire starting materials collected before starting your fire.

• Green or wet wood must be dry enough for the surface to catch fire. Never take tinder or fuel from a live tree.

• Charcoal is a good replacement for a cooking fire. Light the coals ten minutes before you need to cook over them.

**Starting a Fire with Matches**

• Never use flammable liquids (gasoline or stove fuel) to start a fire

• It’s OK to use fire starter sticks.

• It’s OK to use a butane lighter, but store the lighter out of the sun.

• Start with small, easily burnable materials (tinder), move up to larger sticks (kindling), then to larger pieces of wood (wood fuel). Never take tinder, kindling or wood from a live tree. It is much harder to burn.

• To use matches - crouch down as close to the fire as possible; shield the flame from the wind with your body by placing your back to the wind; strike the match and keep it lit in cupped hands (most matches go out because people try to light something with a match before the match is fully lit); put the match into your tender in the same direction as the wind. Matches can be made waterproof by dipping them in melted wax.

**Maintaining the Fire**

• Fire must be attended at all times. If the fire is not going to be attended, it is to be put out and cold to the touch before leaving the campsite.

• Fire is a functional and enjoyable part of camping. Respect fire as a useful tool, not a toy. Do not play with or pull burning sticks out of the fire. This is dangerous and can result in your losing the Firm’n Chit card and privileges.

**Two Types of Campfire Lays**

1. Tepee Fire **-** Start by placing a large handful of tender in the middle of

your fire ring; lean a circle of kindling and fuel-

wood around the tender (the tips should come

together like the poles in a Indian teepee); feed

fire from downwind side; add fuel after the fire

is started.

2. Log Cabin – Start by placing larger logs in

a square in a log cabin formation; add smaller

logs as you build upward; light the fire at the

top with the smaller pieces of wood. As the

campfire progresses, it will ignite the lower,

larger wood (this is a good fire for a council

ring).

**Two Types of Cooking Fire Lays**

1. Three Point Fire– (is used for a single pot or pan); drive three metal tent stakes or place three dry rocks into the fire pit before you light the fire. The stakes or rocks will hold a pan or pot. Build the fire between the stakes or rocks. Once the fire is lit, place cooking pot on the stakes or rocks.

2. Hunter’s Fire - Place two logs on the ground; separate the logs according to the width of your pot. Put a handful of

tender and kindling between the logs; build up the fire with thicker and thicker fuel then ignite the tender. Place pot on

logs for cooking and feed the fire underneath the pot between the two logs.

**Other ways to start a fire:**

• Flint and Steel – Flint is a hard gray rock with smooth faces and sharp edges. Use a piece of steel such as a small file. First prepare your fire lay for the lit tinder. Make a spark catcher (lint from a clothes dryer makes a good spark catcher). Gather a handful of very fine, dry tender and lay it on the ground and nest a bit of spark catcher in the center. Hold the flint over the tender. With the steel, strike a glancing blow against the flint, knocking sparks into the spark catcher. Gently blow on the tender until it catches fire. Transfer the lit tinder to your fire lay.

• Fire by Friction – First prepare your fire lay for the lit tinder. Then prepare a fireboard by cutting a notch and hole in a dry piece of hardwood. Put some very fine tender under the fireboard notch and hole. Kneel with one foot on the board and twist a bowstring around the spindle and hold the spindle upright with a hand piece (glove, other piece of wood or handkerchief). Press down on the spindle to keep it in the fireboard hollow. Turn the spindle with long, steady strokes of the bow. Keep going until heavy smoke pours from the notch. Lift the fireboard and tender together and blow on the ember in the notch until it ignites the tender. Slide the flaming tender under your fire lay.

• Fire by Magnifying Glass - On a sunny day, you can start a fire with a magnifying glass or a lens of a pair of thick eyeglasses. First, prepare your fire lay for the lit tinder. Move the magnifying glass or lens until it focuses the sun’s rays into a small, brilliant point of light on your tender. In a few minutes, the fuel should begin to smolder. Blow on the smoldering tender until it ignites and then place it in your prepared fire lay.

**Putting out the fire (Do in this order):**

1. Spread the coals with a shovel or stick.

2. Sprinkle water on the fire to begin to cool it. Do not pour the water on the fire as a big stream of water could cause burns through steam or splattering water.

3. Continue to put out the fire with water or dirt. Stir the ashes and coals to ensure that they are completely out. The fire is out when the ashes and remains may be touched with the bare hand. (If water is scarce, use sand or dirt to put out the fire.) This is called the “cold out test”.

4. Reconstruct the fire area back to its original condition if possible. If an area was cleared for the fire, the ashes should be scattered and the area returned to its original state. Cover the area with leaves, sticks, or whatever was there before. Rocks that were used to form a fire circle should be turned over and put back. Replace any sod if it was removed.

**Using a camping stove and lantern:**

• There are two types of common fuel for camping stoves: white gas (Coleman fuel) and propane. All cooking in this troop is done on propane stoves; the only exception may be some backpacking stoves. All lanterns are propane.

• Setting up Propane Equipment: Make sure the propane bottle is on level ground or has a base attached. Make sure the stove, lantern and propane bottle connections are clean. Screw the propane bottle into the stove or lantern firmly (but not too tight).

Propane tank connections are “lefty-loosy, righty-tighty”. The screws in large propane tanks (like the ones used on a gas grill) screw the other way – “righty-loosy, lefty-tighty”.

• Lighting the stove or lantern – Light the match or

butane lighter before turning on the gas. Hold the match or light close to the burner or lighting hole on the lantern or stove, then turn the propane on. If the stove or lantern does not light immediately, turn off the fuel and call your Patrol Leader or a Scoutmaster.

•Always attend a lighted stove or lantern

• Use pots that are appropriate in size for your stove.

• Let a stove/lantern cool completely before you put it away.

• If you need to replace lantern mantles, get help from a Scoutmaster or older scout. Mantles are very delicate and are important for proper lantern operation.

**Misconceptions:**

• If a fire looks like it’s out (no smoke), it’s really out.

• Leaving the fire unattended for just a few minutes is OK.

• You need a big campfire to cook a meal.

• A single match or a lit stick is not enough to light a forest fire.