# MILITARY MEDIA INC.

FOR INFORMATIONAL & STUDY PURPOSES ONLY! DO NOT ATTEMPT TO MAKE THIS EXPLOSIVE. THIS CD IS FOR READING ENJOYMENT ONLY. MAKING THIS EXPLOSIVE COULD INJURE OR KILL YOU. THIS CD IS NOT INTENDED AS A RECIPE BOOK.

# Basic Demolition Charge Types

Cutting steel by the use of explosives is not an easy task. Aside from the natural strength and hardness of the metal, the configuration is often another complicating factor. Cutting a structural steel target such as an I-beam poses no great problem, regardless of the explosive used. There is no difficulty in achieving close contact between the blocks of TNT or tetrytol and the flat surface of of the I-beam. Trying to get the same type of close contact between TNT and a round steel target, however, is another matter.

Cylindrical steel targets, such as turbine shafts, are not only difficult to cut because of their shape, but the metal employed in their construction is exceptionally hard. To cut a round turbine shaft just one foot in diameter requires a large amount of explosive, using conventional techniques, and even with an overcharge, results are not always assured. There are two charges that have been designed specifically to cope with this problem, the saddle and the diamond charge. The ribbon charge has been designed to cope with non-cylindrical targets of structural steel.

### Saddle Charge

A saddle charge can be used to cut mild steel cylindrical targets up to eight inches in diameter. Dimensions are as follows: The short base of the charge is equal to one-half the circumference of the target. The length or long axis of the charge is equal to twice the base. (Said another way, It is equal to the circumference.) Thickness of the charge is one-third block of C3 or C4 for targets from 6 to 8 inches in diameter. Above 8 inches in diameter, or for alloy steel shafts, use the diamond charge. Prime the charge from the apex of the triangle, and the target is cut at a point directly under the short base by cross-fracture. Neither saddle nor diamond charges will produce reliable results against non-solid targets, such as gun barrels.

#### Diamond charge

This charge can be used to cut hard or alloy steel. Dimensions are as follows:

The long axis of the diamond charge should equal the circumference of the target, and the points should just touch on the far side. The short axis is equal to 1/2 the circumference. Thickness of the charge is one third thickness of a block of C3 or C4. To prime the charge, both points of the short axis must be primed for simultaneous detonation. This can be accomplished electrically or by use of equal lengths of detonating cord, with a

cap crimped on the end that is inserted into the charge. As detonation is initiated, in each point of the diamond, and moves toward the center, the detonating waves meet at the exact center of the charge, are deflected downward, and cut the shaft cleanly at that point. The diamond charge is more time consuming to construct, and requires more care and more materials to prime. Transferring the charge dimensions to a template of cardboard or even cloth permits relatively easy charge construction (working directly on the target is extremely difficult). The completed wrapped charge is then transferred to the target and taped or tied in place, insuring that maximum close contact is achieved. The template technique should be used for both the saddle and diamond charges.

#### Ribbon Charge

To cut non-cylindrical steel targets the ribbon charge produces excellent results at a considerable savings in explosive. Dimensions are as follows:

The thickness of the charge is equal to the thickness of the target to be cut. Note: Never construct a charge less than 1/2 inch thick.

Width of the ribbon is equal to twice the thickness of the target. Length of the charge is equal to the length of the desired cut. Prime from an end, and for relatively thin charges, build up the end to be primed. Build up corners if the charge is designed to cut a target such as an I-beam.

Tamping is unnecessary with the ribbon charge. A frame can be constructed out of stiff cardboard or plywood to give rigidity to the charge and to facilitate handling, carrying and placing it. The ribbon charge is effective only against targets up to two inches thick, which accounts for the great majority of flat steel targets likely to be encountered.

### Platter Charge

The platter charge has been developed to breach volatile fuel containers and ignite their contents from distances up to fifty yards. The platter can also be employed to destroy small electrical transformers or other "soft" targets, again from a distance. Platters do not have to be round or concave, although a round or concave platter is undoubtedly best. The concave side of the platter faces the target, and the explosive is molded to the reverse side. Flat, square, or rectangular platters are permissible, with steel being the best material. Platter size preferably should be between 2 to 6 pounds, and the weight of explosive should approximately equal platter weight. The explosive should be uniformly packed behind the platter and it must be primed from exact rear center. Build up the C4 in the center of the charge if necessary to insure detonation. A container for the explosive is completely unnecessary for the platter charge, as long as some way is found to hold the plastic firmly to the

platter. Tape is acceptable. The platter range is about 50 yards, depending primarily on the size of the target to be attacked. Practice helps.

#### Shaped Charge

The angle of the cavity of an improvised shaped charge should be between 30 and 60 degrees. Standoff should be from one to two times the diameter of the cone. Height of the explosive, measured from the base of the cone, should be twice the height of the cone. Exact center priming is important, as is tamped C4. Trial-anderror experimentation in determining optimum standoff should be stressed. Due to the many variables involved, such as explosive density and both density and configuration of the cavity liners, accurate reproducible results are almost impossible to obtain. A point worth mentioning in preparing hollow-bottomed bottles for shaped-charge use is to hold the bottle upright when burning the string soaked with gasoline. As the flame goes out, submerge the bottle, neck first, in water. If done well, the bottle will break cleanly where the string was burned. Hemispherical cavities will produce more surface damage on the target, but less penetration. A true cone with an angle of about 45 degrees will produce more penetration, which is the most desired result. Melting TNT in a double-boiler will produce an explosive loading of excellent density. Dynamite can be used if no other explosive is available, with reduced yield. The higher the weight strength the dynamite, the better the results. It will penetrate mild steel targets up to two inches in thickness.

### Cratering charge

Ammonium nitrate (AN) fertilizer is a material that is readily available in many parts of the world. With AN and one other ingredient, we have the ability to tailor make cratering charges to fit our needs. A rule of thumb for an improvised cratering charge is as follows:

To each 25 pounds of ammonium nitrate fertilizer, which should be the prilled or pellitized variety, add about one quart of diesel fuel, motor oil, used or not, or gasoline. Allow the charge to soak for one hour, prime with one pound of TNT or equivalent, tamp well in a suitable borehole, and detonate. Do not allow the AN to become wet with water. A 40 pound charge of AN will produce a nice crater.

## Ammonium Nitrate Satchel Charge

While the cratering charge is a good one, it is only suitable for cratering. A more versatile charge can be made from AN, using wax as the second ingredient rather than oil. The procedure for making this charge is merely to melt ordinary paraffin and stir in AN pellets, insuring that the wax is thoroughly mixed with the AN while still hot. Before the mixture hardens, add a 1/2 pound block of TNT or its equivalent as a primer. A #10 can makes a good

container for this charge. The addition of shrapnel and a handle to the exterior of the charge makes an excellent satchel charge or booby trap. Suitably sealed, this device will keep well and will not draw moisture.