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Classic Snowlauncher System Loading Procedures

The following are procedures to be followed for loading, and firing the Classic Snowlauncher System, used for avalanche control by Snow Avalanche Programs in British Columbia Canada.

The Classic Snowlauncher system is comprised of three main parts

- 1) The fore-body 1.1 kg TNT pay-load
- 2) The arming tail fin assembly
- 3) CIL Avalauncher High strength detonator
- 4) Plastazote pillow spacer

Parts 1 & 2 are fitted together by means of a friction fitted connection.



Additional Equipment for loading

- Dry approved container for detonators
- Dry container for tail fins
- Federally Licensed magazine for 1.1kg TNT fore-bodies
- Federally licensed magazine for detonators
- Container for transporting fore-bodies from magazine to gun site

Prepare the gun for firing with approved CIL procedures

3. Personnel

Two people are required to fire the Classic system. The blasting crew consists of a team leader or gunner and one assistant. **No other personnel should be in the blasting area while loading and firing these rounds**

i) **Team Leader** - is responsible for the following:

- a) Safety of the entire operation
- b) Operation of the gun
- c) Supervision of the blast area
- d) Confirming the charge detonation
- e) Preparing the rounds
- f) Loading and firing the rounds

ii) **Assistant** - is responsible for the following:

- a) Recording the shots
- b) Double checking the system assembly
- c) Observing the projectile in flight
- d) Confirming base plate separation in flight
- e) Confirming the targets and detonation of the charge

4. Classic Snowlauncher Loading Procedures

Check to ensure the Classic Snowlauncher fits properly in the gun barrel. Do this by manually pushing an inert assembled round or a fitted testing gauge made of wood, plastic, brass or aluminum, through the entire length of the barrel, both ways, to ensure there are no foreign objects in the barrel and there are no restrictions in the barrel

4.1 Preparing the Classic for Loading

On arrival at the launching device, proceed as follows:

- a) Check fore-body for external marks, protrusions, dents, and general condition. The fore-body should be smooth, clean and free of any foreign grit or objects.
- b) Check to insure the nose cone is on straight and snapped on all the way
- c) Check to ensure the cap well is clear of any foreign objects and proper depth
- d) Take one 5mm plastazote pillow found inside a baggy inside the tail fins box, and load it into the top of the detonator well. Using the detonator well depth-

checking tool, push the plastazote pillow all the way to the bottom of the detonator well

e) Check general condition of tail fin. There should be no dents, creases or foreign objects on the outside of the fin.

f) Check the spring tension on the bore-rider pin. The pin should depress and withdraw freely against the external washer, preventing the spring from jamming in the bore-rider pin hole, in the side of the tail fin.

g) Check to ensure the safety cotter pin is in place

h) Check to ensure the base plate is properly fixed to the bottom of the tail fin.

i) Check to ensure the arming wire is properly fitted into the pore-rider pin and properly secured to the base plate. The arming pin should be slid as far forward, towards the booster charge, as possible

j) Check to ensure the striker-pin magnet is properly secured in the bottom of the striker-pin channel

k) Check to ensure the striker-pin is properly in place in the striker pin channel

l) Check to ensure the detonator ferule is properly in place inside the top cup section of the tail fin

m) Check to ensure there is no grit or foreign objects inside the of the top cup section of the tail fin

n) Check the high strength detonator. Ensure there are no foreign objects inside the open bottom section of the detonator. There should not be any rust or condensation visible. The yellowish primary charge of lead-azide should be visible inside the detonator, well down inside the aluminum shell

o) Place the detonator over top of the ferule

p) Place the fore-body overtop of the detonator ensuring that it fits properly inside the fore-body cap well and push the two parts together.

q) Ensure the two parts are tightly pushed all the way on to each other preventing any air pressure from entering into the tail fin

r) Load the assembled charge into the barrel of the gun with the nose cone forward and the bore-rider pin facing downward

s) Positioning of the hands while loading the round is important. One hand should underneath and cupping the round in the area of the bore-rider pin. This will prevent the bore-rider pin from inadvertently ejecting from the assembled round. **Do not hold the round by grasping the base plate. If loading the assembled round into a try loader the cupping of the round is not necessary as the round can be cradled on the tray, which will also prevent the bore-rider pin from inadvertently ejecting.**

t) Remove the safety cotter pin and discard with the hand which is not cupping the assembled round. If loading the assembled round into a breach loader, using the free hand that is not cupping the assembled round, slide the entire round into the breach by pushing on the bottom of the base plate. This step can often best be done by using a fist on the bottom of the base plate to push. **Do Not Grasp the base plate and finesse the assembled round into the breach. This could cause the arming wire to inadvertently slip out of the bore-rider pin.**

The assembled charge is now ready to fire. Follow approved submitted firing procedures for appropriate gun.

- u) Check to ensure base plate separates and falls off in flight after firing
- v) Confirm detonation audibly and/or visually where possible

Always fire the Classic Snowlauncher from engineer approved protection and/or remote location. Never stand beside the gun and fire the Classic Snowlauncher System. Always confirm with CIL prior to firing these rounds that your firing procedures are safe

5. Safety Precautions

- a) The team leader and assistant(s) must be in contact at all times.
- b) No flammable or sparking materials may be carried in the same containers as the explosives, detonators or tail fins
- c) Only approved CIL Explosives parts may be used to fire this system
- d) Only personnel directly involved in the shoot should be present when firing the Classic Snowlauncher system
- e) CIL Snowlaunchers should not be shot with firing pressures exceeding 350 psi
- f) CIL Snowlaunchers should not be shot with firing pressures below 80 psi
- g) Always check with the gun manufacturer for the maximum and minimum gun firing pressures prior to deciding on target pressures
- f) Never fire a Claasic Snowlauncher with a firing pressure lower than 80 psi
- g) Never fire a Classic Snowlauncher with a firing pressure greater than 325 psi

6.Deteriorated or Damaged Product

If any significant damage is detected, to any of the components in the assembled parts, Do NOT Use these and advice CIL Explosives of the issue.

If any of the parts appear to compromised or deteriorated to any degree, Do Not Use these, and advise CIL Explosive of the issue.

7. Wait time for Misfired Round

CIL insists on a 1 hour wait time before approaching any misfired avalauncher round.

8. Misfires and Disposal

Refer to approved procedures for the jurisdiction working in
MSDS sheets for the fore-body, detonator and tail fin are available from
CIL Explosives.

CIL Explosives provides on-site technical training service for all customers using this
system