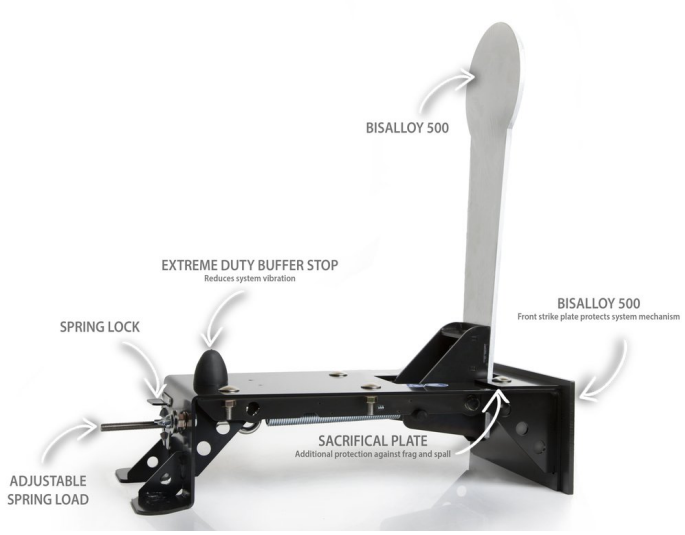
BLACK CARBON



APR - AUTO RESET POPPER INSTRUCTIONS

ARP System Instructions

Congratulations and thank you for purchasing a Black Carbon, Australian made ARP Classic target system. We understand there are many choices available in the market, we sincerely thank you for selecting our system and hope it will provide you with the highest possible value and enjoyment for years to come.

SAFETY FIRST:

IMPORTANT! The ARP Classic system must NEVER be handled by way of grabbing anywhere inside the target (popper) hinge window, from above or below. Additionally do not place hands or bodily parts rearward of the popper/within its drop zone area. The ARP Classic system is heavy; please ensure your safety by arranging help if you do not feel confident moving it alone. Should you decide that the weight is within your personal limits please plan your lift and movements to eliminate possible injury and maintain the bulk of the weight as close to your bodyline as possible.

Minimum safe shooting distances:

Rifle - 150 meters

Pistol - 15 meters

Maximum velocity = 2750 FPS MAX all systems

Maximum energy 8mm system = 1500 Ft/lbs

Maximum energy 12mm system = 4000 Ft/lbs

Should you have any further questions or concerns please do not hesitate to contact us on 03 9799 9705 or by email – info@blackcarbon.com.au

In the unforeseen/rare case of spares parts being required, all spares are available through Black Carbon directly or through our dealer network. If for whatever reason this is of inconvenience most probable spare specs are listed below.

1. Rear wing nut for spring tensioning system and tension lock = Wing-nut, M12x1.75
2. All cup head bolts (including target retaining bolts) = Stainless Steel 316 M12x40
3. Target retaining nuts = M12x1.75 flanged nyloc, Grade 8 minimum (do not use stainless) 4. 8mm ARP system spring = Century springs (made in USA) part no, C337
5. 12mm ARP system spring = Century springs (made in USA) part no, C339

1. SETTING UP THE AWESOMENESS

After unpacking your system, (ARP's utilize plastic packaging, please dispose of thoughtfully and be mindful of hazards to children) please familiarize yourself with functions and adjustments prior to using in the field. The ARP is delivered in a transport/storage state and will need minimal preparation prior to use.

Carefully roll the ARP over and locate the two generic 10mm steel pegs that are wrapped and secured underneath the system chassis. These pegs may be required later at time of shooting depending on ground type where your range is. Remove them now by cutting plastic zip ties and store them for later use.

2. PICKING UP SLACK

Placing the ARP on flat level ground or work space (NOT ON A TILE, POLISHED TIMBER OR DECORATIVE FLOOR). Unlock the tension lock by turning it 1/4 turn anti clockwise. Swing the lock plate 180 degrees out of the way.

Slowly lift the target popper while at the same time withdrawing the system tensioning bolt rearward. This will remove slack from the system, expose spring tension thread and the target popper will maintain its vertical (at ready) position.

3. GET THAT SPRINGY FEELING

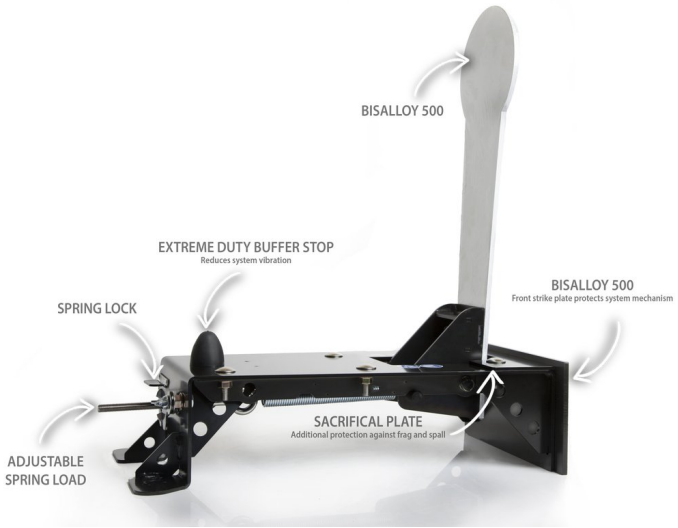
With the popper now in it's at ready position wind/spool the tensioning wing-nut clockwise to remove all storage/transport free slack from the spring system. Once all slack is removed the system will need an additional 30-40mm of "pre-load" tension.

4. IN THE BALL PARK

To test the load setting is roughly correct, by hand draw the popper target down ward and release it, it should steadily raise back to the at ready position (illustrated in image). If the popper does not raise, more pre-load spring tension is required (turn the tension wing-nut clockwise). If the popper target is returning far too quickly reduce pre-load by turning the wing-nut anti Clockwise.

TIP!

The tensioning wing nut is faster adjusted with one hand maintaining some rearward pressure on the tensioning bolt as the wing nut is wound in or out. Assess the bolt from underneath chassis during tensioning. Use one hand to manipulate the tensioning bolt, the other winding/spinning the tensioning adjuster wing-nut in or out.



5. SMOOTH OPERATOR

The best pre load setting is a balance of positive reliable popper return without it returning to0 quick. Find the balance point (where the spring tension holds the popper stationary at around 45 degrees) then increase spring tension incrementally (two full wing-nut turns) until a smooth steady (but as slow as is reliably practical) return speed is achieved. Test the popper at various starting angle’s (full down, 60, 45 & 30 degrees) to ensure reliable return.

TIP!

It is easier to adjust spring pre-load with the popper at its “READY” position.
I.E – Test the return, then move the popper to “AT READY” and adjust tension +/- then test again

6. STAY, STAAYY…… GOOD POPPER

The ARP Classic comes with two generic 10mm pegs. These were zip tied for shipping to the underneath of the chassis. If required these should be driven into the ground relatively vertical to the system through the two chassis holes at the rear of the system.

IMPORTANT - The pegs must not be driven into the ground all the way, the pegs should have about 100mm of "free area" above the hole they go through. The purpose of the pegs is to stop the ARP from "walking" forward/left/right during it's arresting reset action. The ARP target (popper) is braked in its return stroke by the lifting of the rear section of the chassis. We use the weight of the chassis to soften the forward return of the popper's mass, this is why the rear of the system must be able to lift. The popper return stroke WILL NOT tip the chassis forward. On soft/grassed or well vegetated ground rear pegs may not be required, but on most harder ground types the chassis will need to be retained to its position and it's forward attitude to the firing point. If the system is not pegged, maintain a watchful eye on it during the session, remember only the front shield plate and target popper are made from Bis500 armoured steel

REMEMBER – These pegs are only for retaining chassis position, the chassis will not tip forward, the system can be used on ground +/- 5 degrees from horizontal without risk of forward tip, the pegs purely retain position and allow the weight of the chassis to assist in slowing the popper's return energy.

7. GOOD REAL ESTATE DON'T COME CHEAP

The ARP system will work on ground between +/- 5 degrees from horizontal however level ground is ideally best. On terrain where the front of the system is raised higher more spring tension will be needed, On terrain where the rear of the system is higher less spring preload will be required. The actual functionality of the ARP will not be hampered by this angle difference, you will find very similar shooting experience from both angle variations.

KEY POINTS TO REMEMBER

Spring tension adjustment is easier by keeping one hand on the tension eyelet bolt and one hand to rotate the wing-nut, rotate the wing-nut only, not the tension eyelet Bolt. Tension spring achieve a smooth

reliable target return. Remember to relock the tension wing-nut after correct adjustment has been achieved. When setting spring tension, do not bounce the target popper on the rubber bump stop. Target return must be set/tested through spring tension only. If not using the ARP for some time, return spring tension to it's delivered transport/storage conditions. (Popper target down with all spring tension wound off and lightly locked).

MAINTENANCE

The ARP system is relatively maintenance free. From factory it's assembled with all bolts pre-torqued and heavy assembly grease applied to the main hinge pin and thrust washes. Given the frequency of high impact vibration it is good practice to periodically check the target's retaining nuts and also apply relatively thick oil to the main hinge pin-bearing hole in the rails.

ARE YOUR NUTS TIGHT?

We hope so, but if not we recommend torquing to 70-80 newton meters, if not using a torque wrench this is about equivalent to what the "average" person can apply with moderate effort using a 12 inch (30cm) long handle 1⁄2 inch socket. Tools required are, a 18mm 1⁄2 inch socket, small (short) extension and suitable wrench.

DO YOU LUBRICATE?

If not its never too late to give it a go. The ARP Classic comes from factory pre lubed, we use an assembly grease that will maintain its anti friction qualities for a significant time, (depending on environmental usage). If you are finding that the smoothness of your system is degrading then the answer will be some fresh lubricant. We have found that WD40 and other fine spray lubricants are not entirely sufficient for this purpose as they are too thin to maintain a good lubricant film on the contact surfaces during prolonged target actuation. The easiest way to lubricate the hinge engagement is to turn the ARP on it's side, deliver some lubricant around the pin/bearing hole in the rail then actuate the popper target while the ARP is in its side position. Repeat on the other side as necessary and allow some time for the oil/lubricant to find its way way into the hinge clearance. Decent quality thick/tacky gun oil is well suited to this task.

NEWTON SAID IT SO WE CAN'T CHANGE IT

The reaction of the ARP classic system is defined wholly by the energy put into the system from projectile strike. The harder (more energy) the strike, the faster more aggressive in movement the reaction of the ARP will be. The same inverse, if impact energy is too low the system may not be able to generate full target actuation. When a projectile strikes a target plate, the projectiles energy is used or dissipated in a number of ways.

Firstly a portion is used to fracture the projectile. The amount lost in this action depends on the projectile type. For example; a relatively standard or small lead/copper jacketed projectile will have a lower level of energy required to fracture it when compared to say a larger or copper solid monolithic type projectile.

Secondly the kinetic energy above the amount required to fracture the projectile is then imputed into the target plate, this creates the target's movement.

Thirdly, remaining residual energy of projectile fragments being scattered after fracturing has taken place. This is where the correct selection of system thickness is critical. We want the best target reactions over the greatest possible energy range and intended usage range. Obviously a 12mm system is heavier in its target mass than an 8mm system. The automatic assumption is to surmise that this makes a 12mm system better. In the case of the ARP Classic system however this is not necessarily the case.

The intended purposes of the ARP Classic system is target actuation (movement), this element provides positive hit recognition at longer ranges where most steel strikes can often be difficult to hear, see outright or differentiate from previous strikes. If we shoot at a 12mm system with a caliber that is potentially too low in its energy delivery at the chosen range we begin to loose target movement, where as the same caliber with an 8mm system may provide better visual recognition of strikes through better movement.

In this example we can see that sometimes heavier is not always better for the task, and matching the system to the shooter's requirements is an important consideration. Target thickness and shape's are interchangeable with the necessary components. To change from a 8mm to a 12mm system the return spring and front armour strike plate will need to be changed. To change from a 12mm to an 8mm only the return spring and tensioning bolt will need to be changed. Should you wish to reconfigure the system you have for a different caliber or size we have conversions/individual components available to make this possible.

SAFETY

NEVER EVER SHOOT INTO A NORMAL MILD STEEL TARGET!

IF ANYONE TELLS YOU IT IS SAFE, PLEASE INFORM THEM, IT IS NOT!

NORMAL MILD STEELS AND OTHER METALS ARE EXTREMELY DANGEROUS TO SHOOT AT, THEY HAVE A BAD HABIT OF RETURNING FRAG/SPALL STRAIGHT BACK IN THE DIRECTION THE PROJECTILE CAME FROM.

OUR BISALLOY500 TARGETS ARE A SPECIFIC GRADE OF THROUGH HARDENED STEEL USED TO ENSURE FRACTURING OF THE PROJECTILE IN A CONTROLLED MANNER. BISALLOY 500 TARGETS ARE SAFE TO SHOOT AT, OUR ARMOURED TARGET PLATES ARE SPECIFICALLY DESIGNED FOR THIS USE

- Always follow all firearms safety rules at all times when shooting. Safety is your responsibility, not someone else's.

- Always consider target placement and target plate angle, where will "frag" (disintegrating projectile) go to? Black Carbon shooting target frames give you the option to angle the entire post forward to create more downward "fragmentation" bias.

- NEVER EVER shoot steel ball bearings, pellets, BB's, etc, at steel armour targets. Steel pellets, BB's, Air gun pellets and in some cases .22's have a significantly higher chance of bounce back. Projectiles must ideally fragment upon striking Bis500 steel targets.

- Never shoot on steel targets that have been damaged or deformed in any way as this may cause frag splash at unexpected angles.

- Shooters and spectators must wear eye and ear protection.

- Always use your targets in a safe manner and do not stand too close or engage targets at an unreasonably close

distance. Projectile fragments can carry some distance.

- Never use steel targets for purposes outside their design, if you are in doubt about the set up or safe use of a target then there is no doubt, you should not use it, seek further suitably qualified advice.

- Do not use armor-piercing, steel-core, tungsten cored or other hardened ammunition

- Pistol Distance: 15 metres minimum distance from the target; Maximum 1,500 fps lead/jacketed ammo only.

● Rifle Distance: 150 metres minimum distance from the target; extend this to 200 meters when using calibers creating

higher than 4500 ft/lbs energy at impact. Remember the job of the steel target is to disintegrate the projectile, not deflect it. Velocity of 2750fps is ideally the max velocity at impact and should be adhered to.

● Do not weld or modify plate.

● Shoot steel targets straight on, not at steep angles; Consider all uncontrollable directions and potential dangers of frag splatter or ricochet from misses.

● Projectile splatter may be hot; do not use in dry grass or near other combustible materials during high risk fire periods.

● If the target becomes bent, cratered or damaged in any way, replace it.

● Shooting steel (Bis500 armoured plate, not normal steel) is a very safe form of shooting that thousands of people worldwide engage in every day. Make safety a priority, make sensible choices and you'll have a heap of fun.

DISCLAIMER

Black Carbon PTY LTD assumes NO LIABILITY for your use or misuse of any item(s) sold or donated, including without limitation any incidental or consequential liability. Black Carbon targets are intended for a specific use as part of an inherently dangerous activity. ALL WARRANTIES, NO ORAL AGREEMENT OR WARRANTY OF ANY KIND SHALL BE BINDING UNLESS IN WRITING AND SIGNED BY BLACK CARBON PTY LTD. Statements, images, or descriptions are informational only, and not made or given as a warranty in any way. Black Carbon specifically disavows any other representation, warranty, or liability related to the condition or use of the items sold. Black Carbon does not cover any consequential damages, and its liability is limited to repairing or replacing defective items. Every item is sold "AS IS" and "WITH ALL FAULTS". The entire risk as to the quality and performance of the product is with the buyer. All risk of injury is assumed by and shall pass to the purchaser.

Note: Although we **may** be amused at irresponsible behavior, We accept no responsibility or liability for it.

Always be safe.