Huntsman Game Trailer
Operator and User Manual

Photo used for illustration purposes only
Actual Model may vary from that shown

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SAFETY INSTRUCTIONS

Before connecting this machine to any power source or switching it on, the user must read these operating instructions carefully.

Clay target launchers can be dangerous and must be treated with great care at all times to avoid accidents. You must treat a clay target launcher with the same respect that you would treat a loaded gun.

Never place any bodily part into the path of any mechanical piece whilst any machine is in motion or likely to be so.

SAFETY FENCING AND GUARDS SHOULD ALWAYS BE ERECTED AROUND THE MACHINE WHEN IN USE

Assume at all times that a clay target launcher is cocked or loaded and treat it accordingly.

Never approach any machine from the front or sides. Approach only from behind.

ALWAYS disarm ALL machines before carrying out reloading or adjustment.

Reloading with clays should be carried out from the rear of the machines.

Re-arm/cock machines only when all personnel are either behind or at a safe distance away.

Ensure that all machines are stable and cannot fall over.

Ensure that the machine is sited in a way that will prevent people from being struck by either the clay in flight, or broken bits of clay being ejected sideways from the machine.

Never allow members of the public or untrained personnel to approach or touch the machine.

Be aware of the fall zone of both broken and unbroken clays and that changes in wind direction will affect this. This is particularly important with teal and driven birds.

Never move a cocked/loaded machine. Remove the main throwing spring before transport.

Never place yourself or any bodily part into the path of the casting arm or the clay when the machine is operating.

Special Hazardous Conditions

In the rare event that the release of the casting arm is blocked or jammed by a piece of clay, or, in the event of immovable blockage, release the spring by winding the adjusting nut off, whilst keeping all bodily parts back and away from the spring as it jumps towards the front of the machine upon release.

Think very carefully about the result that your actions will produce before proceeding.
INSTALLATION INSTRUCTIONS

In most instances, these machines will not be used in a permanent situation, but whether the installation is permanent or temporary, the following advice is still applicable.

1. Site the machine in a way, which allows free and un-crammed access all around, paying particular attention to the ease of disarming/arming and reloading.

2. Ensure that there are no obstructions to the path of the arm and that the machine cannot change its position due to vibration or reaction.

3. Ensure that the power supply can be easily disconnected.

4. Ensure that cables are laid in such a way that they cannot become entangled in the mechanism.

5. Ensure that access is only available to the machine by qualified, trained personnel.

6. Although the spring tension can be wound on to the maximum amount possible, it is advisable to leave at least a couple of mm clearance between the end of the spring and the locking nut. This will allow the spring to move freely when the machine is fired.
Trailer Use and Maintenance (UK & Europe)

These instructions are provided to help you to get the best possible service from your trailer. To ensure that the trailer is used safely, we strongly recommend that the instructions are read by all users and all the recommendations followed.

*Misuse may invalidate warranty*

Used correctly and sensibly and maintained to this handbook, your trailer should give many years of safe and reliable service. If you are in doubt about any of the instructions, please contact our technical department.

Introduction

Please take the time to read the contents of this manual before you attach the trailer to the towing vehicle, or attempt to use it. It is a good idea when reading this manual, to take a tour of the trailer with all persons who will be using it. Make sure everyone responsible is fully conversant with the procedures for attaching to the towing vehicle, towing, operating and maintaining the unit. By following, understanding and practising the information and procedures in this manual, your Huntsman Trailer will give you many miles of safe travelling. Certain information in this manual is governed by law and is subject to change without prior notice. Great care has been taken to ensure that the information is correct at the time of publication. However, it is the trailers user's sole responsibility to ensure that they fully comply with all legal requirements.

Legal Considerations For The Un-braked Trailer

This trailer should be used with regard to the Road Vehicles (Construction and Use) Regulations 1986, which state that the towing vehicle must have a kerbside weight of at least twice the gross weight of the trailer. Therefore, a maximum gross weight of 500kg will only apply if the kerbside weight of your towing vehicle as stated in the manufacturer's handbook is greater than 1000kg. If the kerbside weight is less than this figure, the maximum gross weight of the trailer will be reduced accordingly.

Towing Vehicle Suitability

The towing vehicle must be suitable for towing the unbraked trailer. Information on maximum towing weight can usually be found in the vehicle handbook or stamped on a plate under the bonnet. If this figure is not available, you MUST obtain confirmation of the maximum allowable unbraked towing weight from the vehicle manufacturer.

Drivers Licence

Any person wishing to drive a vehicle which is towing a trailer, must be in possession of a current full driving licence with the correct entitlement. Provisional licence holders are not permitted to tow a trailer. Make sure that your licence covers you to tow a trailer with your vehicle. For UK licence holders under normal circumstances a B+E licence is required. If the driver passed his / her test on or after January 1st 1997 they will have obtained a „B“ category entitlement only. They are required by law to take a separate towing test for B+E or CI+E (these categories refer to heavier, braked trailers). If in doubt, contact your local Police station or see DVLA fact sheet INF30 for further details.

Insurance

Trailers are not required to have insurance unlike your car, however to protect your investment it would be a wise option to consider separate insurance for the trailer. Some insurance companies
Game Trailer Operator Instructions

will automatically extend “third party only” cover onto a towed trailer, however don’t even take this for granted, always inform your insurers that you intend to tow to avoid problems later. Your insurance broker may require trailer details to validate the towing clause on your policy. Some general insurance companies and other agencies (such as, leisure or trade organisations) offer specialist policies to cover trailers and equipment carried. The types of policy and cover offered varies and we therefore advise that you shop around for the most suitable package.

Towing Brackets

The towing vehicle must have a properly fitted, good quality towing bracket of the correct specification for the vehicle and be fitted in accordance with the vehicle manufacturers recommendations. An ISO Standard 50mm ball should be fitted to suit your trailer. Maintenance of the towing bracket, tow ball and fixings is most important. Regularly check all mounting nuts and bolts for condition and security. It is good practice to have the ball inspected by the supplier whenever your vehicle is serviced. If your vehicle was first registered on or after 1 August 1998 it must be fitted with a tow ball and towing bracket with approval under EC Directive 94/20/EC Mechanical Coupling Devices. The ball must be mounted at the correct height for the trailer coupling. When connected, the trailer must sit horizontally level. Do not tow the trailer if it is tipping backwards or forwards. Always be aware of the condition of your tow-ball. Keep it well greased and covered when not in use. regularly check the wear indicator on the coupling head, especially if hiring or using someone else’s vehicle. If you are in any doubt about the tow-ball have it replaced.

Vehicle Registration Plate (number plate)

The trailer must display a registration “number” plate whenever used on the road. In the UK a yellow rear plate must be fitted displaying the registration mark of the towing vehicle. This plate should conform to the requirements of BS AU 145d:1998, it is not acceptable to substitute the registration plate with anything else or to omit it. Suitable plates can be made up by motor accessory shops or motor factors, however please remember that to obtain a number plate you will need some form of legal identification document (usually a photo card driving licence or passport) and the V5 document for the vehicle the registration refers to.

Speed and road limitations

The legal limit on normal roads in the UK is 50mph (60mph on motorways and unrestricted dual carriageways). You are not allowed to tow trailers in lane 3 (or higher) on motorways, unless specifically directed to do so by a police officer or in an emergency situation (such as to avoid an accident). Where narrow or restricted traffic lanes are in place at roadworks, motorway or bridge tolls etc. take note of any sign-posted restrictions that may prohibit trailers from certain lanes, be aware that tolls may be higher for vehicles with trailers.

Keeping the trailer roadworthy

At the time of writing there is no MOT or equivalent test for light trailers in the UK (most other EU countries have trailer registration and annual testing). It is up to the user to ensure that his trailer is kept, and used in a safe, legal and roadworthy condition. To achieve this, the trailer should be serviced regularly. The frequency of the service will depend upon the amount and type of mileage covered and the manner in which the trailer is used. An annual service may be sufficient for a trailer used once a week, whereas if it is used daily a three monthly check is recommended. A service should include checks on the condition of the whole trailer. If at any time you are concerned about the condition of any part of the trailer we advise taking it to a trailer dealer to be checked over.
Attaching The Trailer To The Towing Vehicle

With a front prop-stand fitted

With the towing vehicle and trailer on level ground, make sure the towing vehicle handbrake is fully applied and the engine turned off. Manoeuvre the trailer towards the rear of the towing vehicle so that the coupling head is sitting close to but slightly lower than the vehicle’s tow ball. Grip the coupling head operating handle with one hand and squeeze the trigger within the handle, then tilt it forwards to open the mechanism. Lift the coupling head into position and place onto the tow ball, at this point release the handle and allow it to return to the locked position. To confirm that the head has locked, try lifting it off the ball without operating the handle. Note. On most UK & European models there will be a coupling indicator fitted to the front of the coupling, when uncoupled this will have the appearance of a red plastic plug, when the tow ball is engaged in the coupling this will rise to reveal a green “correctly coupled” indicator.

With a jockey wheel fitted

If a jockey wheel is fitted turn it’s operating handle anticlockwise to raise the coupling head to a height greater than that of the vehicle’s tow ball. Reverse the towing vehicle towards the trailer so that the coupling head is directly over the tow ball. Grip the coupling head operating handle with one hand and squeeze the trigger within the handle, then tilt it forwards to open the mechanism. Using the jockey wheel lower the head onto the ball, at this point release the handle and allow it to return to the locked position. To confirm that the head has locked, try lifting it off the ball without operating the handle. When reversing your vehicle towards the trailer use an assistant to direct you (especially the first time) take great care to avoid striking the coupling head which could cause damage to towing vehicle and trailer coupling. Unclamp the prop-stand or jockey wheel and lift it as high as possible before firmly re clamping, it is good practice to lock the jockey wheel (by fully closing it) and position it with the wheel parallel to the drawbar.

Always attach the secondary coupling cable

Ideally you should attach the secondary coupling cable to an attachment eye or strong point provided on the towing bracket, If such an attachment point is unavailable it should be looped over the tow ball stem. If you do not have a secondary coupling fitted to your trailer, or if it or any part of the coupling head or operating assembly appear to be damaged or are missing any parts - DO NOT TOW ! Attach the electrical plug for the trailer lights to the towing vehicle’s socket ensuring there is enough slack in the cable for the trailer to correctly negotiate tight turns, without the cable dragging on the road. Check that all the lights are operating correctly (this is easier to do with an assistant, however it can be done alone if the rear of the trailer is placed close to a light coloured or shiny surface such as a garage door where the light reflected from the lamps can be observed by the driver) Check that the jockey wheel and any secondary prop-stand (where fitted) is raised and securely clamped before moving off.

Parking The Trailer

Before detaching the trailer from the towing vehicle, you should choose the area where the trailer is to remain with care. Ideally the trailer should be parked on firm level ground to safeguard against the trailer rolling or sinking into the ground. Where you have no option but to park on soft ground, the trailer should rest on suitable scaffold type boards. Always chock the wheels or otherwise secure the trailer when the trailer is parked independently of the towing vehicle as these trailers have no hand brake.
Game Trailer Operator Instructions

Detaching The Trailer

With the trailer positioned on firm level ground (see parking the trailer for options), apply the towing vehicle handbrake and switch its engine off. Where the trailer is on un-levelled ground, chock the rear wheels. Detach the trailer lights power cable plug from towing vehicle’s socket and place it securely out of harms way. Release the jockey wheel clamp, lowering the jockey wheel to the ground and securely tighten the clamp. Release the coupling head as described under coupling the trailer, use the jockey wheel to raise the coupling head clear of the ball. Finally disconnect the safety cable from its attachment point.

Cleaning

When working or cleaning under a trailer it MUST be parked on firm level ground, with the wheels chocked, and the drawbar supported by suitable axle stands.

The underside of the trailer, including all suspension components should be thoroughly washed down with fresh water after use. Regular cleaning with a pressure washer will help reduce the risk of premature corrosion, especially where the trailer may be regularly subjected to sea and road salt or mud and soil.

Powder Coated Finish (Standard)

The main body of the trailer is powder coated to prevent corrosion of steel components. It is an accepted and effective method of protection against corrosion for steel. However should the coating become chipped or damaged it is necessary to touch up to ensure long term protection. It is also important that any deposits of corrosive substances such as road salt, mud, fertilizer and slurry be removed by immediate washing.

Galvanized Finish (OPTIONAL at extra cost)

Galvanized coatings are present as barriers to prevent corrosion of steel components. It is the most effective method of protection against corrosion for steel and has the added benefit of giving excellent wear resistance. The hot-dip galvanizing process produces a coating, which is bonded metallurgically to the steel, a unique feature in coating processes. During the initial months of exposure to the atmosphere the outer surface weathers, converting the original shiny surface colour to a matt, dull grey protective coating. During this period it is important that any deposits of corrosive substances such as road salt, mud, fertilizer and slurry be removed by immediate washing. Failure to do so will lead to discolouration and unsightly staining of the surfaces. Once formed, the galvanized coating will provide protection against corrosion for many years.

Long Term Storage

If the trailer is to be put into storage, it is recommended that the axles are supported on suitable stands with the wheels clear of the ground. This will prevent the tyres from suffering permanent distortion if they should lose pressure. It is recommended that the trailer is stored in a dry building and before the trailer is put back into use on the road, it should be fully serviced.

Personal safety

Whether loading or unloading the trailer, cleaning it or carrying out routine / periodic maintenance procedures, always wear personal protective equipment to suit the task you are performing i.e. Always wear gloves when handling ropes or loading rough or coarse objects. Whenever loading or unloading a trailer be aware of other people in the immediate area.
Game Trailer Operator Instructions

Tyre care

Fully inspect each tyre (including the spare if fitted) for tread depth (tyre wear regulations for trailers are the same as those for cars, 1.6mm minimum) and uneven / excess wear. Pay special attention to the tyre sidewalls, looking for nicks, abrasions and cuts. If you suspect a tyre is unsafe or below the legal requirements, ask your local tyre retailer to inspect the tyre. Check tyre pressures regularly with the tyres cold and inflate as necessary. DO NOT be tempted to inflate the tyres to a higher pressure than stated on the tyre wall as this will lead to excessive tyre wear and trailer instability. Under-inflation will adversely affect the handling and fuel consumption and will lead to premature tyre wear. If seriously underinflated a tyre will overheat and fail very rapidly. As the trailer may get much less use than your car, this means the tyres also get less wear, pay particular attention to the condition of the rubber surface as tyres on very lightly used trailers can perish due to old age before they are anywhere near worn out.

Tyre pressures:

5.00 - 10 36 p.s.i. / 2.5 bar

Tyre Repairs

Punctured or damaged tyres should be inspected and repaired or replaced by a specialist tyre distributor. The tyres are tubeless and the fitting of inner tubes is not recommended. Defective tyres must be replaced immediately and must not be used on the public highway. When replacing a tyre, make sure that it is of the correct size, type and specification. Never fit remoulds, regrades or second hand tyres to this trailer. Have the wheels balanced and always request that a new valve be fitted. Any wheel rims that have been damaged by striking a kerb or similar object should be replaced as soon as possible.

Wheel nuts on new trailers

Check wheel nuts after first 25 miles of service and subsequently before every journey, the correct wheel nut torque is shown in the section below.

Removing and re-fitting Wheels

Position the trailer on a firm level surface, apply the towing vehicle handbrake firmly and if possible chock the other trailer wheel. Using a 18mm socket or wheel brace, slacken each wheel bolt by a maximum of half a turn. A suitable jack should be placed under the trailer cross member close to the axle. Remove all four wheel nuts whilst supporting the wheel. Place the bolts somewhere safe until refitting a wheel. Lift the wheel into place aligning the wheels holes with the wheel studs. Tighten each bolt by hand following the sequence shown. Lower the trailer to the ground, remove the jack and fully tighten all the wheel bolts, following the sequence shown. The wheel bolt threads and seating surface should be clean and free from oil or grease. If a torque wrench in not available, then either a standard socket bar or wheel brace (approximately 300mm / 12” long) should be used to prevent over tightening. Do not use foot pressure on the wheel brace or the extra force available from an extension bar. Have the nuts reset to the correct torque as soon as possible afterwards. The correct wheel bolt torque (42 lb/ft or 56.9Nm) Great care should be taken to ensure that all persons are kept clear of the trailer while the wheel is changed or until adequate support stands are in place under the axles

All wheel bolts should be checked for correct tightness after the first 25 miles of travel.
Tightening sequence 1, 3,4, 2 (Diagonally Top to Bottom)
Game Trailer Operator Instructions

Maintenance

Coupling head

The general condition of the coupling unit should be checked monthly. Any damaged or worn parts should be replaced immediately. To minimize wear on your towing ball and coupling head, clean out the cup in the coupling head monthly and apply new grease.

Every 3000 miles or 6 months, thoroughly examine all moving parts for wear and correct functioning and check for excessive wear on the coupling head and coupling.

Note. If you need to replace your coupling unit your tow ball may need to be replaced as well due to the extra wear that may have occurred.

It is always recommended that the coupling unit and ball are replaced at the same time, as this will increase the service life of both components.

When replacing the coupling unit, the attachment bolts and nuts should also be replaced.

Wheel bearings & hubs

Taper roller types: Taper roller bearings require a small amount of play to operate efficiently, this play is taken up as the bearings warm up and it is necessary to leave this pay in the system when replacing or adjusting the bearings. After the first 500 miles and at intervals of 1500 miles or every 6 months examine the wheel bearing hubs for excessive side play, adjust and/or re-grease if necessary.

Adjustment: Remove the knock-in grease cap (if it appears to be very tight it may be freed by lightly tapping around the edge)

Carefully remove the split pin and tighten the nut until the free rotation of the hub is impaired.

Slacken the nut by approximately 1/12 of a turn (about 30 degrees) until the next groove in the nut is aligned with the drilled hole, refit the split pin (or fit a new one if badly damaged or deformed) and splay to secure the nut. Refit the grease cap and test spin to ensure the hub is free to rotate.

Damaged, loose or missing hub caps should be replaced as soon as possible.

Axle & suspension

No lubrication is necessary.

General Lubrication

All other moving parts should be lightly oiled regularly, using a good general purpose oil.
Operating Instructions

Huntsman/Super Sporter (All Models)

Before making any adjustments or working on the traps ensure that the traps are uncocked and switched off.

Check visually from the rear of the machine(s) that the motion of the casting arm(s) is not restricted or blocked in any way.

Always operate only from the REAR and NEVER from the front or sides. From this stage on, do not lean on the machine(s) OR touch whilst in motion.

Check the trip/isolator(s) on the side of the control box are in the “OFF” position, so that the red telltale(s) are visible.

Check that ALL switches on the operators panel are in the centre OFF position.

Make the battery connections ensuring that the red and black cables of each pair are connected to the same battery. With the fitted quick release battery connections it is essential NOT to hammer the connections on or to over tighten them.
Switch the trip/isolator(s) on the side of the control box to the “ON” position, so that the red telltale(s) are not visible. Selecting each machine in turn and from the back of the machine(s) push the arm/off/disarm toggle switch into the “DISARM” position for about half a second only and release it. The switch is spring-loaded and will return automatically to the “OFF” position. The casting arm(s) should now be static and visible to the left side of the machine(s) and the machine(s) will be in a safe condition. If the casting arm(s) are not visible, repeat the previous step until the arm(s) are visible and the machine(s) are in a safe condition. Switch the trip/isolator(s) on the side of the control box to the “OFF” position, so that the red telltale(s) show.

If your machine has been supplied ready for operation, then proceed to the next instruction. If your machine is supplied without its carousels fitted, they will need to be fitted using the centre pin, nut and washers provided on the top plate. Tighten the 19mm nylock nut down on to the blue plastic damping spacer. The nut should be tight enough for the carousel(s) to turn but not spin freely. It is best to keep turning the nylock until the blue damping spacer starts to squash up slightly.

If your trap was delivered without its mainspring fitted, now is the time to fit it. The Arm(s) can now be moved by hand until they stick directly out of the front of the trap away from the operator. The mainspring would now normally be at its shortest length and can therefore be fitted to the machine. See following photo.

DO NOT LOAD CLAYS YET.
Game Trailer Operator Instructions

Ensure that nothing will restrict the further motion of the arm(s).
Switch the trip/isolator(s) on the side of the control box to the “ON” position, so that the red telltale(s) are not visible.
Switch the arm/off/disarm toggle switch(s) down to the “ARM” position.
The machine(s) will cycle and stop in the armed position and **MUST BE TREATED WITH EXTREME CAUTION**.
It is now necessary to fire the trap but **NOT** allow it to re-cock so that clays can be loaded.
This is done by pushing the arm/off/disarm toggle to the “DISARM” position for about half a second and release it so that it returns to the “OFF” position as before.
The trap will immediately fire but not re-arm. The throwing arm will be visible and stationary on the left hand side of the machine.
The machine is now in the disarmed or **SAFE** state.
To further remove the risk of accidental re-cocking, it is advisable to switch the trip/isolator(s) on the side of the control box to the “OFF” position, so that the red telltale(s) are visible.
(Remember to switch back on after loading clays! This is often forgotten in the rush to re-load during shoots.)
The magazine can now be filled and it is advisable to place only a small quantity of clays in each column initially.
Ensure that the clays about to be thrown are going into a safe area.
Switch the arm/off/disarm toggle switch(s) down to the “ARM” position. The machines will load a clay and come to the cocked position and are now ready to fire.
To check for clay flight and direction, fire the traps using the arm/off/disarm toggle switch exactly as before so that the machine fires **ONCE** but **does not re-arm** until the switch is returned to the “ARM” position.
With the trap(s) in the **DIS-ARMED/SAFE** position, switch the trip/isolator(s) on the side of the control box to the “OFF” position, so that the red telltale(s) are visible. Move to the rear of the machine to adjust the direction of the clay flight to suit and elevation if required as follows.

**ANGLE ADJUSTMENT**

DTL (Front) trap(s) as fitted to the Huntsman Range have additional control motors to allow the trap(s) to oscillate from side to side and on ABT (Rear) trap up and down as well. The amount of angle can be adjusted as follows.

Loosening the clamping nut(s) on the elevation slot bolts on the Front 2 machines will allow you to adjust the height and angle of elevation, once correctly set, tighten the nut on the height-adjusting slot lightly. See photo below.

Using a 10mm Allen key undo the crank bolt, situated on the oscillating disc on the small gearbox, bolted to the trailer frame between the front traps and remove from the hole in the disc. See photo below. The disc has several 12mm threaded holes in it spiralling out from the centre of the disc. The further out the hole the greater the angle of oscillation. Put the crank bolt back in to the required hole and tighten.
The front 2 traps are tied together with a tie rod (seen at the bottom of the picture above) which has been factory set but can be adjusted to allow a greater spread of clays. Caution should be exercised to ensure that the tie rod is not over adjusted to enable the mounting bolts to hit the trailer frame.

On the rear ABT trap there is an extra control motor fitted for up and down movement. See photo below.

By placing the crank bolt in a different hole on the disc the angle of elevation can be adjusted. The further out the hole from the centre on the disc, the more up and down movement is achieved.
Game Trailer Operator Instructions

The rear trap also has a separate control motor bolted to the trailer frame below the rear trap for oscillation, again adjustment is made using a 10mm Allen key to undo the crank bolt, situated on the oscillating disc on the small gearbox, and remove from the hole in the disc. See photo above. The disc has several 12mm threaded holes in it spiralling out from the centre of the disc. The further out the hole the greater the angle of oscillation. Put the crank bolt back in to the required hole and tighten.

The oscillating control switches on the Front and Rear traps have three positions. The centre position is the “off” position. The forward momentary position is for inching the machine a few degrees at a time (enabling static targets) and the rear “on” position holds the motor on so allowing the oscillating motor to oscillate continuously while the machine is in use. Note that when in the “on” position the oscillating motors will run and then stop momentarily before restarting. This feature is fitted to all machines with oscillating motors as it carries out two functions. The first is to randomly stop and start the oscillating motors so making it impossible for the shooter to “read the target” or guess which direction the next target is going in if the trap is hidden from view. The second function is to stop the oscillating motors after a short period of time if the machine is not being used so saving battery power. This means that the user does not have to walk up to the machine and turn it off when shooting has finished, the timer will do this automatically. When the next target is called for and the trap fired, the timer starts the oscillating motors again. Even if the oscillating motors have shut down, users must be aware that the machine(s) are still armed and must only be approached from behind to disarm the machine(s) before reloading or adjusting. Inch control automatically bypasses the timer unit which means that the oscillating motors will continue to oscillate until they are switched off at the operators control box.

The elevation control switch on the Rear traps also has three positions. The centre position is the “off” position. The forward momentary position is for inching the machine a few degrees at a time (enabling static targets) and the rear “on” position holds the motor on so allowing the elevating motor to run continuously while the machine is in use. Note that when in the “on” position and like the oscillating motors above, the elevation motor will run and then stop momentarily before restarting. Even if the motor has shut down, users must be aware that the machine(s) are still armed and must only be approached from behind to disarm the machine(s) before reloading or adjusting. Inch control automatically bypasses the timer unit which means that the elevation motor will continue to run until switched off at operators control box.

Once the above adjustments have been finalised, you are now ready to fill the magazine if required. Should the clay have a tendency to peel off, either left or right of stable flat flight, this can be adjusted by raising the trailer on one side to compensate and bring the flight level. This method may be necessary for machines situated on uneven ground.

All Super Sporter traps have an adjustable rear clay guide rail on the casting plate. By slackening and moving this rail either forward or backwards by small increments, and then re-tightening, it is possible to adjust the direction of throw of the clay by up to 30° without moving the complete machine. It is not recommended that this facility be used in temporary sporting settings.

**ADJUSTMENT FOR DISTANCE AND SPEED**

Increasing or decreasing the distance that the clay is thrown is achieved by winding tension on or off the spring(s). This MUST be done with the trap(s) in the disarmed/safe condition. After adjustment of the main spring to set the correct throwing distance, the nuts on the spring stud must be tightened against each other. The trap(s) can now be switched on for normal use by pressing the arm/off/disarm toggles down to “ARM” to cock the machine. The trap(s) will fire and re-cock each time that the fire button on either the operators control box or radio remote is pressed. No loading or adjustment to the machine should be carried out unless the machine is disarmed/safe. After use, the machine must be left in the disarmed/safe condition and the power supply removed. It is not necessary to relieve the remaining spring tension.
Game Trailer Operator Instructions

Radio Control/Flush Control

Your Huntsman is supplied with full radio control which enables you to use each individual trap manually, any 2 traps simultaneously or ALL 3 traps simultaneously by pushing the relevant buttons.

The controller also has as standard a fixed 20, 40 & 60 bird flush facility. To use this facility first select the flush you wish to shoot 20 bird (1 or 2 Guns), 40 bird (2 or 3 Guns) 60 bird (3 or 4 Guns), using the slider control. Set the Flurry speed knob in the centre position (used to slow down or speed up the time between clay launches). Push and hold down the start knob for 2 seconds when a Beep will be heard, indicating that the Flush will commence in 3 seconds. Once started the Flush will automatically continue until the selected amount of birds have been thrown, which will be indicated by another audible beep from the handset, the speed of the Flurry can be adjusted whilst in operation if required. To abort a flush once commenced, simply push and hold down the start knob for 2 seconds. The handset is powered by a 9 volt battery, which can be changed by removing the rear cover to allow access.

Should the battery fail during a shoot, the trailer can be used by manually firing the traps using the relevant FIRE pushbuttons on the operators control box.

Battery Charge Bar System (Huntsman XP Only)

The Huntsman XP is supplied with 5 x 105Ah 12volt DC Lead Acid batteries and an Automatic Charging system fitted, the system consists of a number of intelligent chargers which enable the user to plug into a mains AC supply using the removable mains lead supplied and leave the trailer to recharge overnight. The intelligent chargers monitor the battery conditions and adjust the charge rate to suit, with an automatic cut out when the batteries are fully charged.

FAULT FINDING

It is Promatic’s policy to upgrade or modify any of its products if they are ever proved suspect. Problems, which do occur, usually revolve around the clay pigeons themselves or the variation in their sizes between the different manufacturers. Poor maintenance and cleaning or physical damage caused during transportation of the machine are the other normal causes. Items that should be treated with great care are the throwing arm, casting plate and electrical box.

WARNING: At no time should you put yourself at risk by placing any bodily part within the area of operation of moving mechanical parts.
FAULT FINDING (ELECTRICAL)
Super Sporter as fitted to Huntsman Range

Electrical Schematic

1. **Machine does not cock** (i.e. come to the loaded position.)
   Check:
   (a) Battery is charged and that connections are tight.
   (b) Magnetic trip switch is in the “ON” position.
   (c) Toggle switch is in the down “ARM” position.
   (d) Arm is clear of roller limit switch under casting plate. If not, then press toggle up to “DISARM” until the arm is clear, then back down to the “ARM” position.

2. **Machine still does not cock.**
   (a) Check all connections are tight including those inside the electrical box. Check for broken wires and damaged connections.
   (b) If there are no broken connections (battery connected, all switches on) press toggle up to “DISARM”, listen and watch for the 12v relay operation in the control box.
   (c) If the relay operates but the motor does not turn - short across the 2 large contacts on the relay with a screwdriver or piece of wire.
   If the motor does not turn - then the motor is suspect. If the motor does turn - then the relay is faulty. Contacts may be dirty or worn out.
   (d) If the relay does not operate - short across contacts on back of trip switch on Super Sporter models. Try toggle switch in “DISARM” and “ARM” positions.
   If the motor turns - then the trip switch is faulty.
Game Trailer Operator Instructions

(e) If the motor does not turn - then short the brown wire to the yellow/green wire on the back of the toggle switch with the switch in the “DISARM” position. If the relay operates and the motor turns - then the toggle switch is faulty. If the relay still does not operate then it is faulty.

3. **Machine runs in “DISARM” position, but not in “ARM” position.**
   (a) If the arm is clear of the roller limit switch then the roller limit switch is faulty. Check that the roller arm is not seized. If so, strip, clean and re-assemble. Otherwise replace the switch.

4. **Machine cocks, but will not fire on Radio Handset.**
   (a) Either the connections, Receiver or Handset are faulty. Replace the battery in the Handset if the trap still does not fire, remove the lid from the receiver and check that the power on LED is illuminated, if not remove the lid of the main control box and check the radio supply fuse. If the fuse has blown replace, if the fuse continues to blow or the fuse is not blown the radio is faulty and should be returned to Promatic for repair.

5. **Trap fires by itself!**
   (a) Disconnect the radio receiver and switch the trap back on. If the trap cocks normally - then the radio is damaged or shorted out. Alternatively, the push button switch is stuck in or faulty.
   (b) If the trap **continues to fire** - then check the arm to crank timing relationship as described further on in this manual. If the above relationship is correct then, **after having put the trap into the disarmed/safe position,** move the roller limit switch **away** from main frame along the slotted bracket to its maximum. If the machine now cocks normally - then move the limit switch back to within 5mm of its original position. If the trap now fires by itself again then move the switch to 10mm of its original position and so on until the trap cocks normally under all conditions.
   (c) If the machine **still fires** by itself - check if the relay contacts have stuck together, and if so replace. If the relay operates correctly, but the trap still fires by itself, then the roller limit switch is faulty and should be replaced.
FAULT FINDING (MECHANICAL)

Super Sporter

1. Carousel does not rotate.
Check:
(a) The Carousel pusher arm is not jammed with broken clays or dirt.
(b) The pusher return spring is broken or missing.
(c) With the pusher arm withdrawn, the carousel should be free to rotate with a small amount of friction. This is adjusted by tensioning the locking nut holding the carousel on against the plastic sleeve underneath it.
(d) Carousel pusher timing is correct, i.e. when the gearbox crank and connecting rod are in line at maximum extension, (see photo below) the rollers on the bottom of the carousel pusher arm should be 1 mm clear of the carousel plate at maximum travel. If this is not the case then the clamp on the rear pusher shaft should be adjusted accordingly. It must be tightened before operation of the machine.

2. Machine will not throw clays.
It is usually obvious what is wrong with a machine which does not throw clays at all. It is more likely that the following situation arises:
Machine throws clays but:
(a) The clay flicks up in the air.
The arm is probably bent down or the casting plate bent up, squeezing the clay between them. The arm or plate should be replaced or straightened.
(b) The clay goes no distance (even though the main spring is wound up tight).
The arm is probably bent upwards causing clay to go under it at its tip. This will also cause clays to break. The solution is to straighten the arm.
(c) The clays are inconsistent in direction.
The clay is being jammed under the arm towards the end. This is usually caused either by the arm being bent down, then the tip bent up or more likely clays varying in thickness. The solution if the arm is bent is to straighten it. If it is the clay thickness, then lower the casting plate to accommodate the thickest one you can find. Adjust each nut exactly the same amount, until 1 to 1.5 mm clearance is achieved between the bottom of the friction strip and the clay. See photo above.

3. The Machine breaks clays!
A point to consider here is that if you have other traps, which have suddenly started to break clays, then it is probably the clays, which are at fault. Particularly soft clays can be accommodated, by fitting a “soft fall” plate to the machine (all machines manufactured after January 98 are fitted with a soft fall plate), but sometimes the clay will be unable to absorb the actual throwing forces consistently. The maximum acceptable level of no birds is 5%, but should in practice be less.

A simple process should be followed which differentiates between the loading of the clay prior to throwing and the throwing of that same clay.

Check **loading cycle** first:
(a) Check that clays in the magazine are intact, not chipped or cracked. If in doubt, remove suspect clays and refill with ones known to be intact.
(b) With the machine switched “OFF”, rotate the magazine by hand, removing each clay as it drops onto the casting plate. Check for cracks and chips. If the clays arrive on the plate intact, then move on to the throwing section below.
(c) If they arrive chipped or cracked then remove the magazine and check that the thickest clay you can find slides easily under both inner and outer knife edges, i.e. just free enough not to be squeezed onto the carousel plate. Check of course that the knifeedges are not excessively high, although this would tend to shave the bottom off the next clay, not break it. Adjust both knife-edges accordingly.
(d) If damaging contact occurs on all columns then the knife-edge is damaged and must be realigned by refitting or possibly filing or grinding to give minimal clearance. The knife-edges are adjustable with a 10 mm spanner. Each knife-edge has three slotted holes for ease of adjustment.
(e) Check each clay and if all are unchipped or uncracked, remove the cloth and repeat the process. This time if any of the clays break or crack as they land on the casting plate, then the clay is unsuitable or too soft.
(f) Check that there are no tight spots in any of the carousel pockets. Occasionally machines can suffer slight damage in shipping to the carousel. This can be easily adjusted with a suitable piece of wood or the handle of a hammer. See photo below. Ensure that a handful of clays move up and down each of the pockets once adjusted. If the clays arrive on the plate intact, then the fault lies in the throwing cycle.
Check **throwing cycle** next:
(a) Check arm for straightness, for chunks missing from the rubber/plastic friction strip or any other physical damage to the arm. If the arm cannot be straightened then it should be replaced. A new friction strip can be fitted to an old arm if necessary.
(b) Check for damage to the casting plate especially the front edge of the plate in case it has been dented, bent or burred. Check for flatness; ensure that no screw heads protrude and that there are no other obstructions to the clay's path.
(c) Check the height of the arm over the plate across its whole surface to ensure that the clay fits under the friction strip with about 1 mm clearance. Any more than 3 mm clearance will cause the arm to break the clay by riding over it.
(d) Check that the bolt holding the arm to its clamp block is tight.
(e) Check the arm-crank timing relationship. If this relationship is incorrect the trap will definitely break clays when throwing. The timing can be adjusted to the diagram found in this manual.

As each of the above elements is checked, something incorrect should be discovered. If the machine still breaks clays, then there is one final check. Slacken the main spring to its minimum extension, i.e. with the throwing arm in the forward position the coils are just open. Operate the trap a few times in this mode, which puts hardly any stress into the clay because of the slack mainspring. If the clays still break then it is very likely that the actual clays are sub standard and a new batch should be obtained.

**ARM TIMING DIAGRAM**

![ARM TIMING DIAGRAM](image-url)
Instructions for Fitting a Midi Carousel

1. With the trap disarmed and the carousel empty of clays, remove the standard carousel from the machine. This is done by unscrewing the 19mm nylock nut in the centre of the carousel.
2. With the carousel removed take a 10mm spanner and unscrew the outer knife-edge assembly from the top plate. Look at the underside of the top plate to establish which two bolts hold the assembly to the top plate.
3. Refit the complete knife-edge assembly over the inner fixing holes on the top plate.
4. Drop the midi carousel on to the top plate shaft but do not fit the 19mm nylock nut and spacer.
5. Put a midi clay into one of the carousel pockets (it does not matter which one) and rotate the carousel so that the clay passes through the knife-edges. The clay must pass through the inner and outer knife-edges without the drive-band of the clay catching on the side of either knife blade. If the clay does catch on either blade, the blade will need to be adjusted. It is possible to move the blades away from the clay as all blades have slotted holes machined in them. Slacken off the bolts that hold the knife blade to the block and then slide the blade in the direction required. Retighten the fixing bolts when the blade is in the correct position.
6. With the clay passing cleanly through the knife-edge blades, stop the clay under the leading edges of the knife blade and check that the blades are at the correct height. Adjust as necessary with a 10mm spanner.
7. Fit the carousel blue spacer and 19mm nylock nut and retighten, so that the carousel does not spin freely when it turns. There needs to be a small amount of friction when the carousel rotates. The carousel does not need to be set in any particular position, it will automatically time itself.
8. The carousel is now ready to be filled with clays.
INSTRUCTIONS FOR SPRING REMOVAL
The instructions below apply to the Super/Sporter models.

1. Ensure the machine is sited in a way, which allows free and un-cramped access all around, paying particular attention to the ease of disarming/arming and reloading.
2. Ensure that there are no obstructions to the path of the throwing arm and that the machine cannot change its position due to vibration or reaction.
3. Disarm the machine using the arm/disarm toggle switch and make safe before removing any clays from the carousel.
4. From behind the machine, press the arm/disarm toggle switch down to arm the machine. The throwing arm will rotate to the armed position. In this condition the machine must be treated with extreme caution.
5. The next step is to disarm the machine, but only hold the toggle switch in the disarm position just long enough for the trap to fire. Release the toggle switch immediately so that the rectangular block (the rectangular block has a long crank bar connected to it with a 10mm cap head bolt) on the gearbox output shaft stops in the 11.00 o’clock position. The 11.00 o’clock position is when viewed from behind the machine looking down on the gearbox itself.
6. If the rectangular block is pointing to 12.00 o’clock flick the arm/disarm toggle switch momentarily just enough to allow the block to point to the 11.00 o’clock position.
7. If the rectangular block is pointing to 10.00 o’clock, rearm the machine and then disarm again.
8. Disconnect the battery from the machine once the block is in the correct position.
9. With the rectangular block now pointing to the 11.00 o’clock position, the throwing arm can be pushed slowly around anti clockwise by hand. It is important to push only on the end of the throwing arm. With the machine disarmed the throwing arm will have stopped at somewhere between 8.00 and 7.00 o’clock. When pushing the arm by hand the spring will take over when the arm gets to about 6.00 o’clock, at this point it is advisable to hold on to the arm so that it gently stops at the 5.00 o’clock position. It is the 10mm cap head bolt on the rectangular block that stops the arm at 5.00 o’clock, which in turn stops the arm from firing. This is why it is important to only carry out step 9 when the rectangular block is pointing to the 11.00 o’clock position.
10. Reconnect the battery to the machine and hold the arm/disarm toggle switch to the disarm position long enough until the throwing arm has moved and is pointing to the 12.00 o’clock position directly in front of the machine.
11. With the throwing arm sticking out in front of the machine, the spring can now be removed by undoing the locking nuts with two 19mm spanners.
12. When refitting the spring, wind tension on until, with the arm fully forward, the coils have at least 0.5mm gap between them. Tighten the two 19mm locking nuts to the mainframe so that the spring can’t vibrate loose.
### SPORTER 400TT & SUPER SPORTER SPARE PARTS

<table>
<thead>
<tr>
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<th>New Part No</th>
<th>Description</th>
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<tr>
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<td>HR/2100</td>
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<td>3</td>
<td>RN6/2100</td>
<td>Arm (Cast)</td>
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<td>4</td>
<td>HR/3350</td>
<td>Soft Fall Plate</td>
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<td>RN6/2200</td>
<td>Friction Strip</td>
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<td>Rear Pusher Shaft (Sporter 8)</td>
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<td>SSP10/1140</td>
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<td>RN6/2630</td>
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<td>E11V/83850</td>
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<td>RN6/3440</td>
<td>Backrail</td>
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<td>M03V/MV50R50</td>
<td>NMRV50 50:1 Gearbox</td>
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<td>30</td>
<td>E00V/SP8</td>
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<td>31</td>
<td>E00V/SSP8</td>
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<td>32</td>
<td>E00V/RN8US</td>
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For more information please see Main User Manual or call Promatic
# DTL/ATA & ABT/WOBBLE SPARE PARTS

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<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>SP1A/2010</td>
<td>Arm Complete (Laser Cut)</td>
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<td>2</td>
<td>SP1DA/1180</td>
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<td>4</td>
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<td>Solenoid Cradle</td>
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<td>S02Z/031D7</td>
<td>Solenoid Return Spring</td>
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<td>SPIDA/4604</td>
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<td>S03Z/14 X 10 X096</td>
<td>Solenoid Spring</td>
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<td>RNPW/4100</td>
<td>Rotation Disc (Pro ABT/Wobble)</td>
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<td>M03V/MV50R100</td>
<td>Gearbox 100:1 (Inter Sporter ATA/DTL)</td>
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For more information please see Main User Manual or call Promatic
INSTRUCTIONS FOR INSTALLING ONE-WAY BEARING IN

SPORTER/SUPER SPORTER

• Release main spring tension and unhook.
• Remove top plate and carousel.
• Remove throwing arm and clamp block.
• Undo 4 bolts holding gearbox and swing clear, to enable main shaft removal.
• Knock out old bearings.

Install new bearings and seals in the order as shown below.
Install in sequence shown.

<table>
<thead>
<tr>
<th>No. 5 Oil Seal</th>
</tr>
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<tbody>
<tr>
<td>No. 4 Large Bearing</td>
</tr>
<tr>
<td>No. 3 Small Bearing (red inside)</td>
</tr>
<tr>
<td>No. 2 Small Bearing (Not included on Harriers and Eagles)</td>
</tr>
<tr>
<td>No. 1 Oil Seal</td>
</tr>
</tbody>
</table>

Note: — Install the seals and bearings with markings on the upper face.
— Ensure bearings are well lubricated with 3-in-1 oil on assembly.
## ELECTRICAL SPARE PARTS

<table>
<thead>
<tr>
<th>Number</th>
<th>New Part No</th>
<th>Description</th>
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<td>E09V/5PIN</td>
<td>4 Pin Relay (Replaced With 5 Pin &amp; Terminals)</td>
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<td>Rocker Switch - Double Pole</td>
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<td>E01P/CB</td>
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<td>E03V/CCBA</td>
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<td>22</td>
<td>E11V/FH59</td>
<td>Fire Button (Colt / Junior)</td>
</tr>
<tr>
<td>23</td>
<td>E04N/250PG9</td>
<td>20mm Gland</td>
</tr>
<tr>
<td>24</td>
<td>E04N/250PG9</td>
<td>P69 Gland</td>
</tr>
<tr>
<td>25</td>
<td>E10V/MB50A</td>
<td>12v Trip Switch (50a)</td>
</tr>
<tr>
<td>26</td>
<td>E23V/BLNST</td>
<td>Rotation / Elevation Timer</td>
</tr>
</tbody>
</table>