



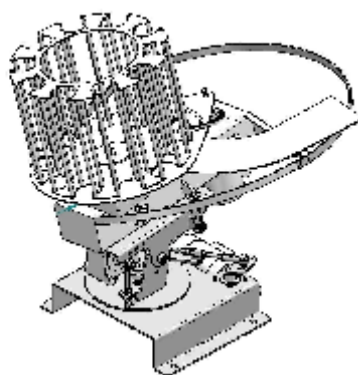
CRUSADER

Owners Manual

CT40 Skeet - CT60 DTL - CT80 Continental

New Zealand and Australia.

www.canterburytrap.co.nz



Design Registration and Patent pending.

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SYMBOLS USED IN THIS MANUAL.

The following symbols are used in this manual to explain procedures, restrictions handling precautions, and instructions that should be observed for safety.



Indicates a warning concerning operations that may lead to death or injury to persons if not performed correctly. To use the machine safely, always pay attention to these warnings.



Indicates a warning concerning operation that may lead to injury to persons, or damage to property if not performed correctly. To use the machine safely, always pay attention to these warnings.



Indicates a Caution concerning operation that may lead to injury to persons, or damage to property if not performed correctly. To use the machine safely, always pay attention to these warnings.



Indicates a warning concerning operation that may lead to injury to persons. Ensure you never enter any areas displaying these warnings as death may result.



Be careful. Do not lift heavy loads without assistance.

It is recommended that correct lifting apparatus and methods be employed at all times to prevent injury.



Indicates a warning concerning flying objects that may lead to injury to persons. Eye protection must be worn at all times.



Indicates a warning concerning electrical hazards that may lead to injury to persons or equipment, read instructions carefully.

Failure to comply with the safety precautions and instructions and/or tampering with the machine will relieve Canterbury Trap International LTD of any liability for damages and accidents to property and/or injury to people. The user must read and fully understand the whole manual before operating the machine.

The user is also responsible for complying with the prevailing accident prevention standards in the countries in which the machine is installed as well as all the guidelines contained in this instruction manual.

Dear Customer

Thank you for purchasing the Canterbury Crusader Singles Trap machine.

We are confident that you and your fellow shooters will get many years of trouble free enjoyment with your Crusader Trap. The Crusader has been designed and engineered to be almost maintenance free and very reliable under extreme conditions. Please read through the setup manual and follow the instructions. If you have any questions feel free to call your nearest Canterbury Distributor for help.

Warranty:

Canterbury Trap International Ltd warrants the trap machines you have purchased to be free of material defects and workmanship for one-year from the date of shipment.

This warranty is exclusive of improper use, failure to provide proper care and maintenance, accidents, abuse or misuse, unauthorized adjustments, repairs or modifications or damage caused by any "Act of God", Flood, Fire, or damage caused by Storms and Lightning to the electrical and electronic components and equipment and normal wear and tear.

Canterbury Trap International Ltd or its authorized agents shall be the sole judge of warranty claims. The responsibility rests on the purchaser to advise the Company in writing within the warranty period, of any faults or defects covered within the scope of the warranty.

If you have a warranty claim, contact your nearest Canterbury Distributor for instructions.

What is excluded from this warranty?

Canterbury Trap excludes and will not pay incidental or consequential damages under this warranty. By this we mean any loss, expense or damages other than to repair the defects in the Trap or replace the Trap. No implied warranties extend beyond the term of this written warranty.

Please spend the time to fill in and register your warranty card on page 35.

Registering your new Auto Trench on our data base ensures that you receive the full manufactures warranty for the first twelve months from date of purchase.

Register on line www.canterburytrap.co.nz

Trap House Preparation

Before installation check that the height of the pedestal that you plan to mount the trap onto is

Between 250mm and 350mm below centre lane height for a CT60 & CT40.

Between 300mm and 400mm below centre lane height for a CT80 Continental model.

The height of the pivot point of the blade on a CT60 & CT40 is 440mm above the base.

The height of the pivot point of the blade on a CT80 Continental model is 600mm above the base.

If the machine pedestal/platform is on old greasy board, please change it. Your new trap will not leak oil or grease so a clean platform to start with will help to keep your new trap clean.

Make sure that the electric wiring in the trap house/s is correct and safe and conforms to all local electrical requirements.

Mount the holder for the safety remote (CT116) onto the wall of the trap house out of shotgun range, but in a position that can be easily reached when entering or leaving the house. We suggest that you mount it on the same side of the trap house that you enter from and accessible without entering the target throwing zone.

Tools & Supplies

Make sure that you have adequate personnel on hand when you need to move the trap. Our traps are heavy, so we recommend that you move the trap using 2 people - preferably strong ones! The trap weighs approx 100kg.

A good electric drill and an assortment of bits.

A metric socket set and some crescent wrenches, flat and Phillips screwdrivers, hammer and pliers would all be handy.

Buy a can of outdoor silicone spray lubricant. This is a non-sticky lube for things like the oscillation arm threads and the mainspring crank. Don't goop up your machine with grease or oil and do follow the maintenance instructions in this manual.

If you are using a wooden base to mount the trap on, then a selection of lag bolts or carriage bolts to fasten down the machine will come in handy

Trap Assembly

If you are reading this you have already opened the shipping crate and found the Owners Manual for the enclosed Crusader Trap. Please read through this manual before you install the trap.

The Crusader Trap is a fundamentally simple machine, yet having some basic information will assist you in setup and ultimately your enjoyment in using your new machine.

Unbolt the sides of the crate and remove the screws holding the machine onto the pallet. Remove all tape and packing material from the machine and carefully look over the Trap making sure nothing was damaged in shipment.

Remove the target hopper by removing the two (2) R clips from the pins at the underneath of the hopper. Just lift the hopper and base plate off and put to one side. Save the 2 R clips!

If you are using a table or trap stand that is wider than the Crusader Trap's metal base, use the wooden base spacer to keep the machine above the table surface.

Installation of Trap

By now, you should have the base prepared ready for the trap.

Although the trap may fit onto an existing pedestal we suggest that you check to see that the targets will still exit the center of the house and at the correct height. Please refer to page 33 for more details.

If you are not utilising an existing pedestal, but building a brand new pedestal for the trap to sit upon, then use the bolt holes in the base frame as the footprint to locate your securing bolts. Use 4 bolts of at least 12mm diameter.

Please refer to CRUSADER layout on page 33 for more details.

Check the trap for wobble. You may need to reconfigure your pedestal to ensure that the trap is as vibration free as possible. A stable trap throws a stable target. If the trap moves around or shakes, the target flight may be erratic.

Fit the blade guide rail (CT137) securely using 4 x M8 bolts supplied.

Once the Crusader Trap is mounted solidly in the house you can engage the mainspring by carefully rotating the arm forward, until the spring connector rod will hook into the fork on the spring.

IF YOU GO TOO FAR, DO NOT ATTEMPT TO REVERSE THE ARM. CONTINUE AROUND AGAIN UNTIL YOU CAN HOOK UP THE SPRING!!

Push the arm forward about 5cm to tighten it against the spring.

NB: The blade cam (part # CT89) must be engaged onto the cam plate (part # CT60) to hold the spring (part # CT159) under the flip-flop plate (part # CT61) down.

Put the hopper back on by locating the bolt thread into the recess in the Allen screw head, which is on the pivot point of the blade. Now locate the two pins at the rear of the hopper base plate CT7 that extend underneath and lock them into position using the 2 R pins you have put to one side.

Refer to page 18 for the hopper assembly diagram.

Find a suitable mounting place on the side of the trap house for the control box. Use the template provided to drill the attaching point holes into the wall and attach the control box with the screws provided. Keep the loom cable away from the arm of the machine and plug it into the control box. Don't force the plug, there is a locating keyway inside the plug and care should be taken to ensure the correct orientation. Care must be taken not to touch the pins in the plug on the end of the loom, as this may damage the memory chip in the loom.

Attach the wiring loom to the wall and/or floor with clips to keep it out of the area where damage could result to it, or people getting into/out of the trap house. Remember that there is lots of movement in the trap house with people and cartons, so be careful where you route the wiring.

We recommend some form of protection for the cable loom where it may be in contact with people or equipment. Either a suitable conduit covering or simply two lengths of wood, one either side of the cable, that mean the cable itself is not stepped on or can have target cartons stacked upon it.

Mount the holder for the safety remote (CT116) onto the wall of the trap house out of shotgun range, but in a position that can be easily reached when entering or leaving the house. We suggest that you mount it on the same side of the trap house that you enter from and accessible without entering the target throwing zone.

Control box features.

Target counter: Records targets thrown. It will only record targets released via the VOICE RELEASE. Targets released via the remote safety (ie set up targets) won't be counted.
Records the total number of cycles.

Oscillation: Unreadable interrupt and sleep mode after two minutes of inactivity.
Sleep mode canceled by voice release or remote safety release button.

Continental : Sleep mode after two minutes of inactivity.
Sleep mode canceled by voice release or remote safety release button.

Connecting the control leads.

WARNING: This is a self powered 12V DC control system.
Under no circumstances should external voltage be
connected to these sockets.
" OPEN/CLOSED SWITCHED CONNECTIONS ONLY."

WARNING: " NEVER" connect any remote release leads (voice or push button) to the control box until you have totally finished setting up the trap. With this lead connected and the remote safety switched on it could be possible for the trap to be released unexpectedly via the remote release by somebody outside the trap house..

The main cable from a Canterbury Voice Release system will plug directly into the control box socket marked (**VOICE RELEASE.**)

Follow the directions in the Voice Release Manual for setting up the CVR system.

For manual release utilizing a standard pull cord (CT135) plug the pull cord into the same socket on the control box marked (**VOICE RELEASE .**)

" OPEN/CLOSED SWITCHED CONNECTIONS ONLY."

Warning : The sockets on the front of the control box marked (**Voice release**)
and (**Target manager**) are self powered at 12V DC.
Under no circumstances should external voltage be connected to these sockets.
" OPEN/CLOSED SWITCHED CONNECTIONS ONLY."

Preparing your trap for operation.

Now that you have your Crusader solidly mounted in your trap house,
DOUBLECHECKYOURWORK.

It's easier to rectify any problems now than after you have started to throw targets.
Use the method "measure twice, cut once".

WARNING: Don't turn the main **POWER** switch on yet.

Now push the blade counter clockwise so that it is positioned at 9 O'clock viewed from the rear of the trap. This activates the micro switch, located inside the chassis. The arm is now in a position that when the power is turned on the blade will be driven into the cocked position by the motor.

WARNING: IF THE MACHINE IS NOW SWITCHED ON AT THE MAIN CONTROL AND SAFETY REMOTE, **IT WILL OPERATE** - ENSURE YOU HAVE READ AND UNDERSTOOD THE SAFETY INSTRUCTIONS IN THIS MANUAL BEFORE PROCEEDING FURTHER.

Turning your trap on.

WARNING: Ensure that the remote safety lead is turned "OFF".

At the control box, turn the **POWER** switch to "ON".

The LCD will now display the trap serial number and software version, followed by the number of cycles and targets thrown.

At the control box, turn the **BLADE** switch to "ON".

This will allow the cocking motor to run.

At the control box, set the **ANGLES** switch as required. CONT-OFF-INT

This will allow the oscillation motor to run either continuously or intermittently

At the control box, set the **HEIGHT** switch as required. ON-OFF

WARNING : This next action will allow the control box to receive a signal from the remote safety release and allow the above functions to be actioned.

Standing at the rear of the trap, turn the remote safety to "ON". The trap will now cycle and the throwing blade will cock.

YOUR NEW TRAP IS NOW OPERATIONAL.

Beware of moving parts and keep clear of the target exit zone.

Start Up

Although your trap was thoroughly tested in our workshop before dispatch we recommend that before you load the hopper for the first time that you cycle the trap 20 to 30 times to check that everything is working as it should. This can be carried out by positioning yourself at the rear of the machine and releasing the trap by pressing the release button on the remote safety lead. Check the hopper is indexing and that the blade is cocking and releasing correctly. These small checks may save you the trouble of unloading the hopper if some damage has occurred in transit.

General Operation

Loading the hopper

NEVER LOAD THE HOPPER WITH THE BLADE IN THE COCKED POSITION.

For ease of loading the hopper may be rotated counter clockwise so that loading can be carried out from the rear of the machine. One target will feed down the flipflop plate CT61 each time the hopper is indexed. Remove each of these targets as they are fed to prevent any chance of a jamb up.

Setting Targets

**WARNING: BEFORE MAKING ANY ADJUSTMENTS, ENSURE:
THE REMOTE SAFETY IS 'OFF'
THE BLADE IS RELEASED, EITHER MANUALLY OR FROM THE REMOTE**

Height Adjustment standard option.

Target height is easily adjusted from the rear of the machine by releasing the lock nut and adjusting the turnbuckle CT67 Clockwise to decrease height. Counter clockwise to increase height. Re tighten the M12 locknut when adjustments are complete.
If the Continental option is fitted use the HEIGHT switch on the control box to adjust.

Height Adjustment for Continental Option.

The cam CT128 is preset to give you a 3M height difference between the upper and lower targets 10M from the trap house.

Using the HEIGHT switch on the control box, rotate the continental gearbox shaft CT128 until it's cam is pointing to the 6 o'clock position.

This is the low target position. You can adjust the height of the lower target now by releasing the lock nut and adjusting the turnbuckle CT154 Clockwise = target up. Counter clockwise = target down. Re tighten the M12 locknut when adjustments are complete.

Distance Adjustment

Increasing or decreasing tension of the main spring (CT81) by means of turning the adjuster handle (CT66) adjusts target-throwing distance. Clockwise increases distance, counter clockwise decreases distance.

Initial and daily Field Centering.

On initial installation of your new Crusader the following procedure is recommended. Remove the bolt securing the balljoint (CT124) and reposition it into the oscillation arm at position "O" (center hole) of cam (CT155) - i.e. straightaway target position. Release the M12 nuts on the linkage and adjust (CT124) until a straightaway target is found.

Re-tighten both nuts.

Now reposition the bolt and spacer (CT164) back into hole 1,2 or 3 in the oscillation shaft cam (CT155) to select the desired target angle.

Future Minor adjustments can be made on the day to center the field by simply releasing the M12 nuts and adjusting their position to suit.

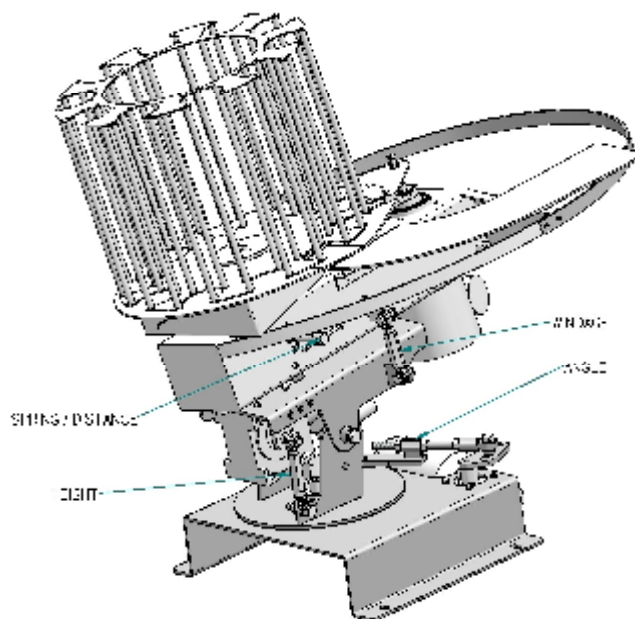
Hole 1 = USA 34° Angles, Hole 2 = NZ / AU 44° Angles, Hole 3 = 70° Balltrap Angles.

Windage Adjustment

Adjusting the windage turnbuckle (CT67) can set the windage or level the targets .

Once adjusted, the M18 lock nut should be re tightened to lock the setting.

ADJUSTMENTS



FAQ

Q 1/ THE TRAP WILL NOT OPERATE

- A 1/
- i/ Check that the mains lead is plugged in and the power is turned on. Test it by plugging in another appliance (eg. electric drill)
 - ii/ Check that the LCD on the control box is showing a reading . If not, check the fuse inside the control box and replace it with a 800ma fuse only. Unplug the control box from the mains power before removing the cover.
 - iii/ Check that the remote safety lead TM137 or CT117 is connected to the control box and switched on. The red LED in the hand-piece must be illuminated . If not the hand-piece is faulty.
 - iv/ If the on/off switch on the control box is turning itself off. Be aware this is a circuit breaker and will trip if there is an electrical fault. It has mains voltage going in (ie 230v or 110v) and 12 volt coming out ,to operate the voice and manual release systems.
 - v/ If the trap is an oscillating model, turn on the ANGLES switch to CONT. Check that the oscillation motor will operate. With the switch set to INT the trap goes to sleep after 2 minutes of inactivity. It has to be reactivated by operating the solenoid either by voice release or pressing a manual button.
 - vi/ If the trap is a continental model the same applies with the motor going to sleep as per the oscillation model.
 - vii/ If the blade motor does not operate check the position of the throwing arm . It must be between the 7 o'clock and 10 o'clock position on both Trapmaster and Crusader's as viewed from the rear of the trap. This will activate the micro-switch that starts up the motor. If it still does not operate , check the thermal overload button on top of the terminal box of the blade motor. Push down the plunger to reset it .
 - viii/ If you are using voice release , check the red LED at the referees hand-piece. If you call for a target thru the speakers on the voice release and the light blinks , it indicates the voice release is working and the fault is at the trap. If it doesn't blink the fault is in the voice release system.

Q2/ TARGET DOES NOT FEED PROPERLY

- A2/
- i/ The hopper may not be rotating far enough to drop the target thru the opening cleanly. Caused by a build up of target dust inside the hopper, making it too stiff to turn freely.
 - ii/ The splitter blade may be bent or misaligned creating excessive resistance on the target.
 - iii/ The targets may be of mixed brands. All targets have different dimensions and some will lock together due to mis-matched tolerances.
 - iv/ The finger adjustments on the flip-flop plate have to be set for your particular brand of target . The target must have 1-2mm (1/16 inch) clearance between it and the driving rubber on the blade, when the blade is in the parked or battery position.

Q3/ TARGET DOES NOT FLY PROPERLY

- A3/
- i/ The target may be getting pinched by the blade due to a higher outer ring on the brand of target you have changed to. You can shim the runway down at the front studs to give it more clearance.
 - ii/ Most models have windage adjustment to level up the target in flight.
 - iii/ Check the condition of the driving rubber on the throwing arm. Especially at the tip and replace if necessary.
 - iv/ Also check that the splitter blade is not misaligned for your brand of target and is not breaking a piece out of each good target.

Maintenance.

Your new Crusader Trap has been designed to provide you and your club with years of trouble free service. However, like all machinery your Crusader Trap needs some minimal maintenance to perform its best, year after year.

Keep the pedestal area of the trap clean and free of grease, oil and target dust.

A touch of grease on the cocking lever face (part # CT79) is recommended occasionally.

The vertical and horizontal target adjustment turnbuckles may need to be sprayed with silicone once a year to assure ease of movement. If you live in a high humidity area, Bi-monthly application of silicone may be in order to prevent corrosion. The spring tension adjustment, shaft (part # CT49) and the spring pin (part # CT24) need an annual shot of silicone lube as well.

The cocking motor and oscillation motor need no lubrication, as they are sealed units.

The hopper needs no service other than to periodically check for any undue wear or damage.

There is a 800mA fuse fitted inside the control box. There are no other owner serviceable parts inside. Call your dealer if problems arise. Keeping connectors clean and coated with light conductive grease will ensure many years of service.

Clean any broken target fragments and dust away from all moving parts on a regular basis.

Helpful Suggestions:

Make sure the trap is mounted securely in the house. A stable trap throws stable targets. If the trap wiggles around, the targets tend to go all over the sky!

The mainspring adjustment is a bit sensitive. Use $\frac{1}{4}$ turn adjustments when setting target distance.

Use the windage adjustment on the machine to level the straightaway target. All other targets will be good, providing the straightaway is level.

ENJOY YOUR SHOOTING

Safety Instructions

Always use the safety remote switch (CT117) to isolate the voice release equipment and manually release the blade.

Never enter the trap house or walk in front of the trap without using the safety remote release switch to switch off the machine and release the blade.

Whenever any person wishes to enter the trap house, the trap must be switched off at the remote safety and the blade released. Remember to switch this back to the 'on' position when leaving the trap house.

If there is a problem in releasing the trap via the remote release, e.g. an electrical fault, then turn the remote safety switch to 'off'. Carefully enter the trap house (we recommend one person only enter the trap house and not to walk in front of the trap) and switch the trap off at the main control box mounted on the wall. Then manually release the blade by pulling the manual release rod (CT45) at the rear of the trap.

If, for any reason, a person is inside the trap house and the blade is in the cocked position, it can be manually released by pulling the rod (CT45) at the rear of the machine. However, before releasing the blade using this manual release, ensure that the remote safety is turned off and the blade and angle switches on the main control box are turned off and all persons are clear from the front of the trap and trap house.

Note: Please be aware that if cracked or broken targets are released while you are in the bunker they may shatter into many pieces. Safety glasses must be worn by all people in the bunker whenever targets are being released.

Note: The blade arc guide rail, is NOT a safety device. It purely indicates the outside radius of the throwing blade. At ALL TIMES, any person, part of a person or their clothing, or any object whatsoever, MUST be kept outside of this guide rail.

Whenever any person is inside the trap house to load, service or maintain the trap or for any reason whatsoever, the remote safety control (CT117) must be inside the trap house under that person's control.

Whenever the trap is being serviced or having routine maintenance, the trap must be isolated on the main control box by having the **POWER** switch turned 'off' and the blade must be in the fully released position.

PART# **PART DESCRIPTION**

CT 1 Hopper upper plate
 CT 2 Hopper rod 350 – 445mm x 40
 CT 3 Hopper lower plate
 CT 4 Hopper friction spacer
 CT 5 Hopper friction ring
 CT 6 Target splitter
 CT 7 Hopper base plate
 CT 8 Hopper hub
 CT 9 Hopper shim 1.2mm
 CT 10 Hopper shim 2.0mm
 CT 11 Hopper thrust ring
 CT 12 Hopper index plate
 CT 13 Blade
 circlip
 CT 16 Blade
 CT 17 Blade rubber
 CT 18 Blade tension pin x 5
 plate CT 19
 washer CT 83 Target runway CT 20
 2 CT 87 Support Plate
 CT 21 One way sprag clutch
 assembly
 CT 22 Bearing retainer
 CT 23 Connecting rod bearing
 CT 24 Main spring pin
 CT 25 Connecting rod
 CT 26 Cocking lever roller
 CT 27 Circlip
 CT 28 Turntable hub
 CT 29 Ball joint LH
 CT 32 Shim .5
 114
 CT 33 Shim .7
 bracket
 CT 35 Oscillating motor/gearbox 230 volt
 splitter
 CT 38 Oscillating shaft key
 plate CT 40
 hopper lower plate CT 43
 target flip-flop plate
 CT 44 Trigger
 adjuster
 CT 45 Trigger release rod
 126
 CT 46 Spacer
 128
 CT 47 Solenoid linkage
 129
 CT 48 Solenoid 230 volt
 130
 CT 49 Trigger pivot shaft
 131
 CT 50 Trigger plate
 CT 51 Clevis pin
 CT 52 Clevis
 cable CT 53
 x2 CT 137 Blade guide rail CT 54
 CT 138 Target deflector CT 55
 Loom
 CT 56 Hopper index plunger
 CT 57 Circlip
 CT 58 Flip flop finger (long)

PART# **PART DESCRIPTION**

CT 66 Adjuster handle
 CT 67 Windage adjustment turnbuckle 70mm
 CT 69 Bolt
 CT 70 Lock plate
 CT 71 Main connecting rod
 CT 72 Mainshaft
 CT 73 Mainshaft motor/gearbox
 CT 74 230 volt Mainshaft securing
 CT 75 washer Mainshaft spacer
 CT 76 Mainshaft key
 CT 77 Main connecting rod hub
 CT 78 Dowel pin x 2
 CT 79 Cocking lever

 CT 80 Chassis
 CT 81 Main leaf spring
 CT 82 Safety
 Blade retaining
 Blade dowel pins x

 CT 88 Blade shim 0.9mm

 CT 89 Blade cam
 CT 91 Micro switch
 CT 93 Hopper indexing stop bracket
 CT 94 Cocking pin
 CT 96 Bearing x 4
 CT 97 Control box 230 volt
 CT 104 Base bearing shaft x3
 CT 106 Oscillation shaft retaining washer
 CT Mainshaft shoulder washer

 CT 116 Remote safety

 CT 119 Mini target

 CT 120 Mini hopper upper
 Ball joint RH CT 121 Mini
 Trigger spring CT 122 Mini

 CT 124 Angles

 CT Balltrap motor/gearbox 230 volt
 Balltrap camshaft
 CT Balltrap yoke pivot bush x 2
 Balltrap yoke pivot sleeve x 2
 CT Balltrap yoke pivot washer x 2

 CT

 CT

 CT 132 Shim .9
 CT 134 Hopper shim 1.5mm
 CT 135 Manual pull
 Actuating shaft bush
 Hopper actuating shaft
 Plunger spring CT 140

 CT 151 Base frame
 CT 152 Turntable
 CT 153

Windage Frame.

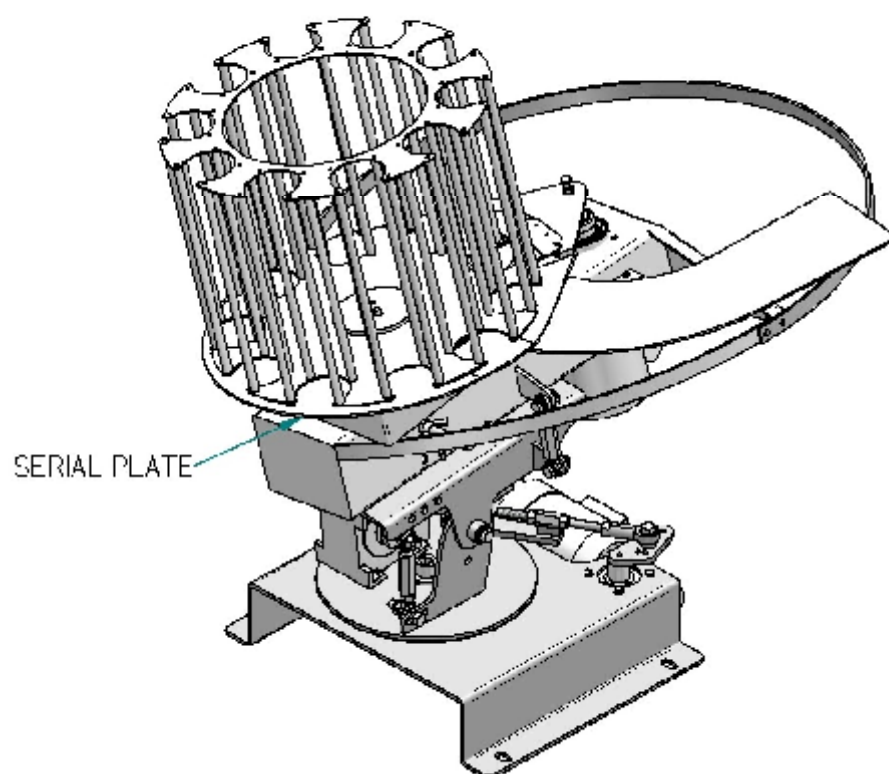
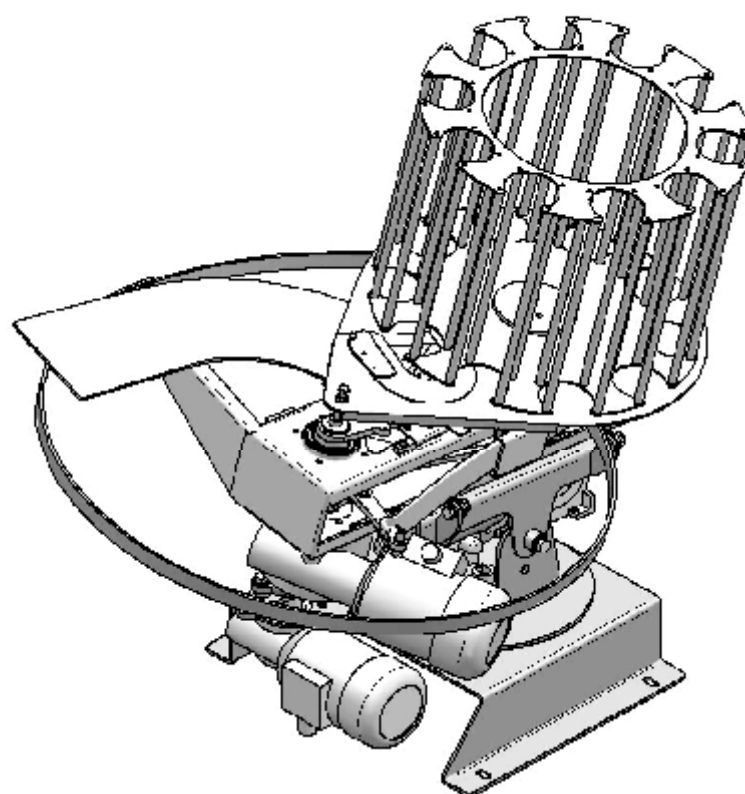
CT 59 Flip flop plate hinge x 2
CT 60 Flip flop cam plate
CT 61 Flip flop plate
CT 62 Flip flop finger (short)
CT 63 Adjuster housing
CT 64 Adjuster shaft
CT 65 Adjuster cushion spring

CT 154 Continental Turnbuckle
CT 155 Oscillation shaft
CT 156 Oscillation shaft spacer
CT 157 Oscillation arm

<u>PART#</u>	<u>PART DESCRIPTION</u>
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CT 158	10mm Rod end x 2
CT 159	Flip flop spring
CT 160	Turntable wear plate
CT 161	Washer x 2
CT 162	Skeet turntable disc
CT 163	Blanking plate
CT 164	skeet Balljoint spacer
CT 165	Blade roller
CT 166	Blade pin

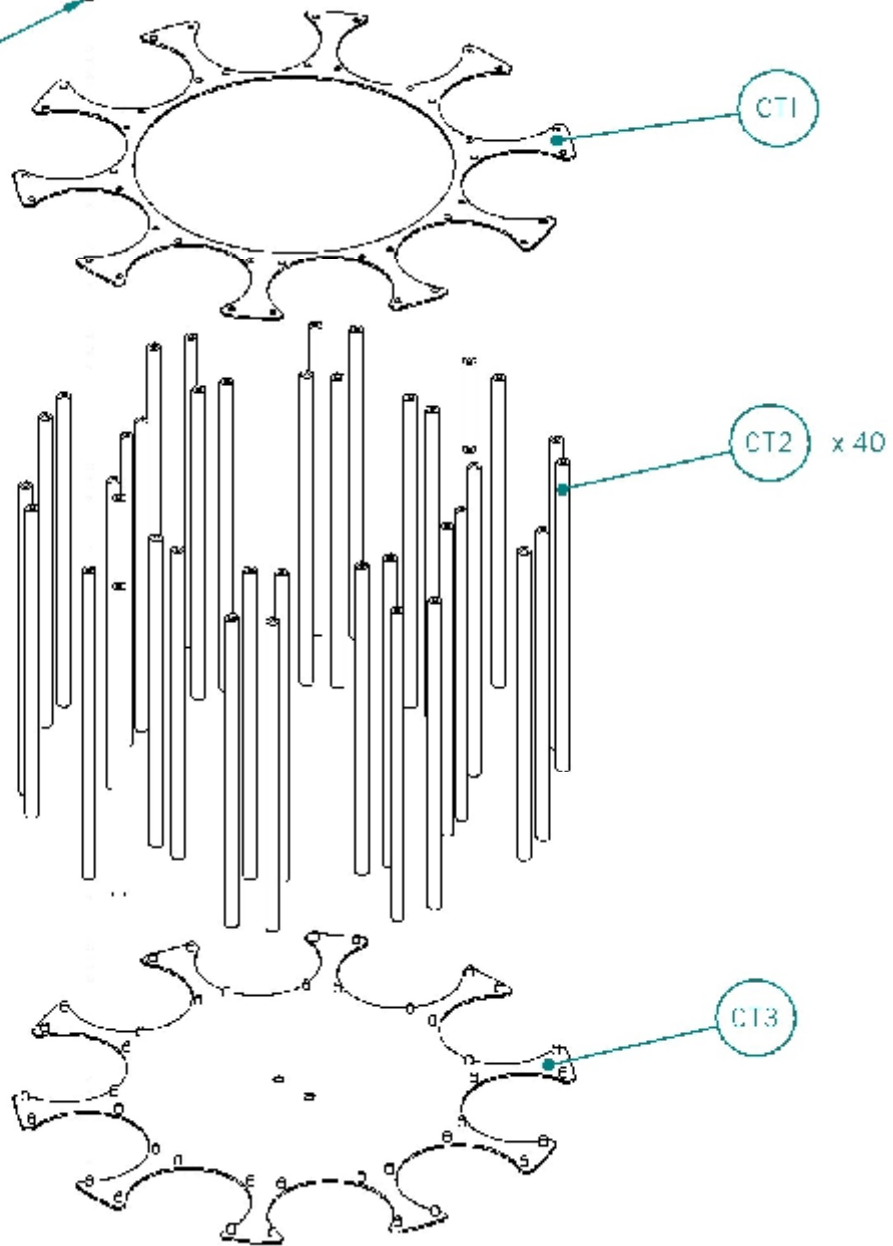
CANTERBURY CRUSADER TRAP PARTS LIST



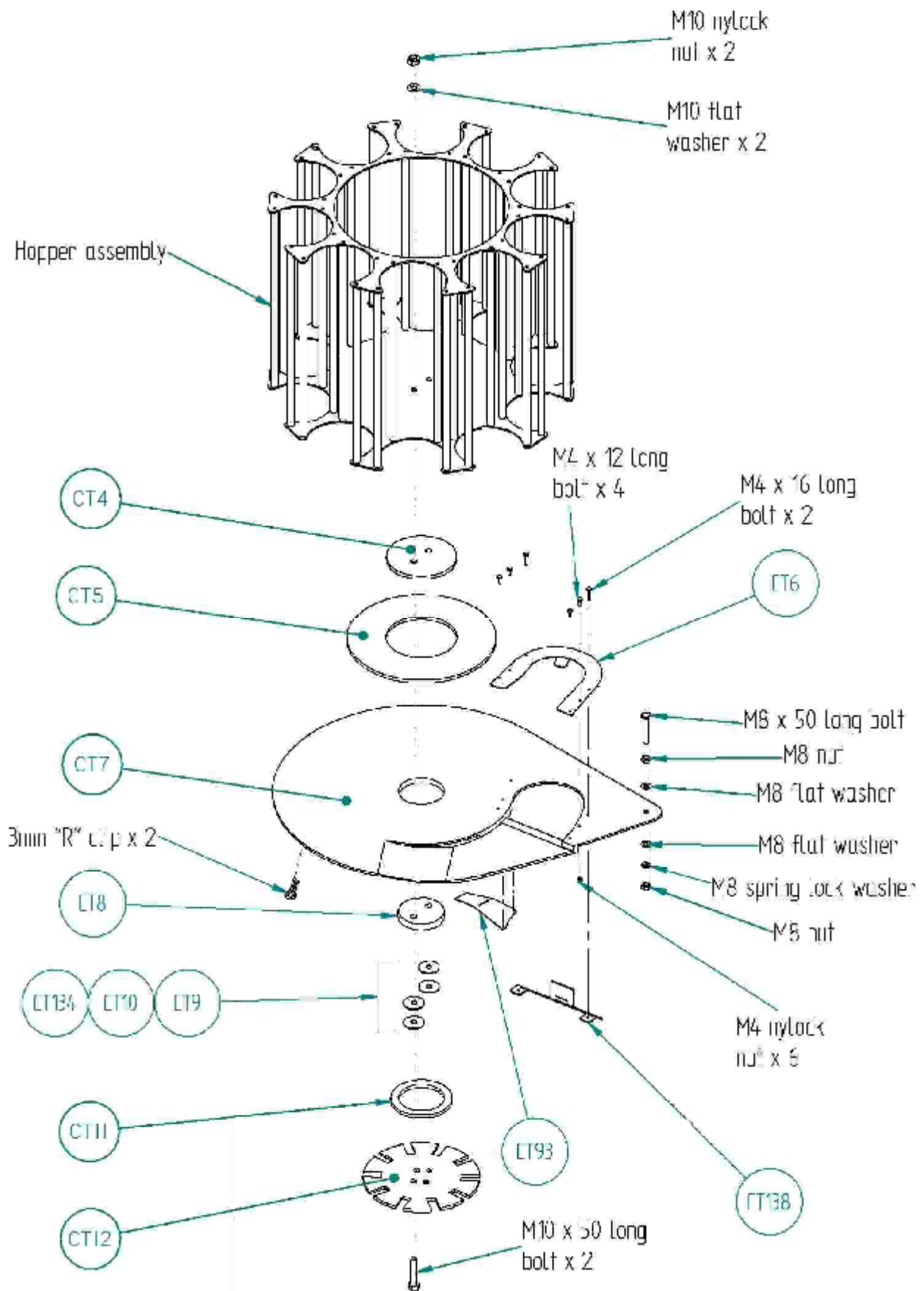
HOPPER ASSEMBLY

M6 x 12 Long
bolt x 40

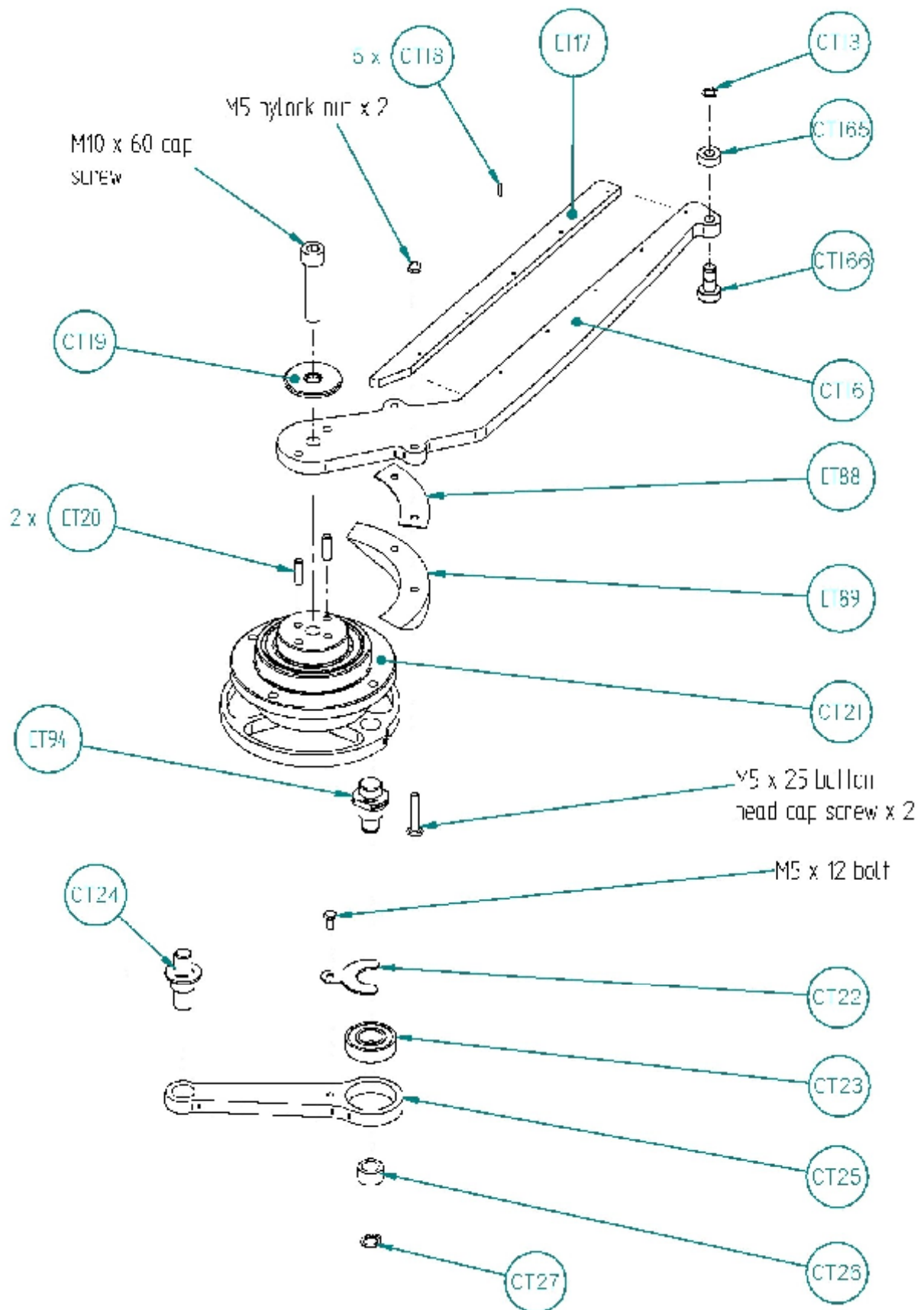
M6 spring lock
washer x 40



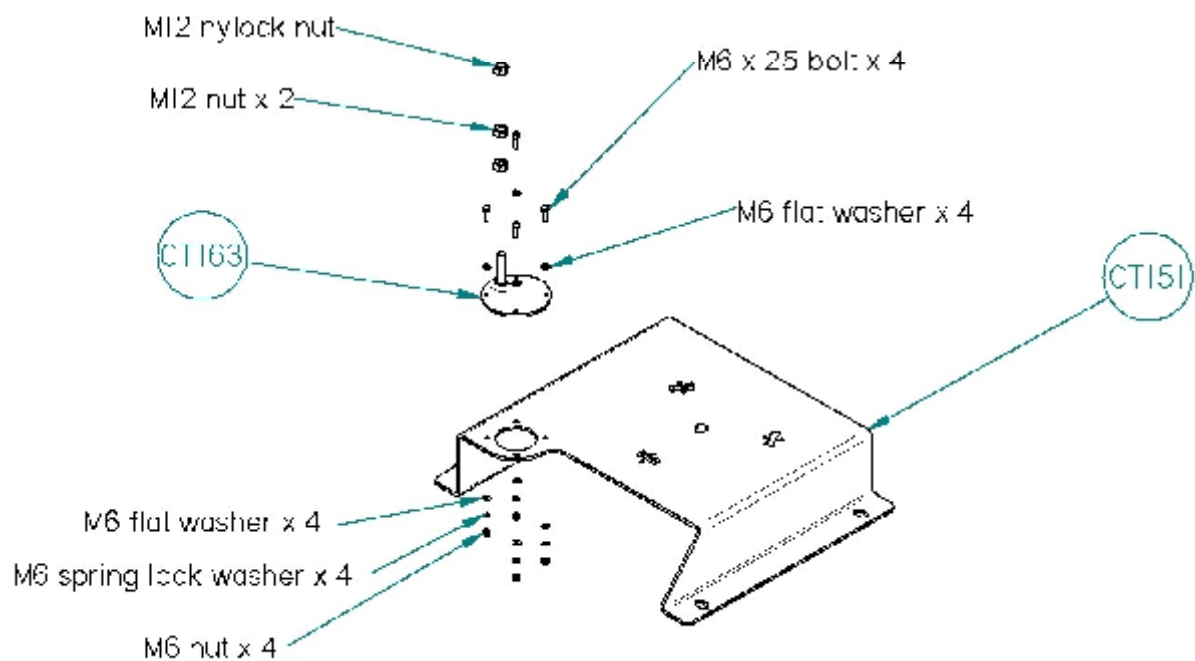
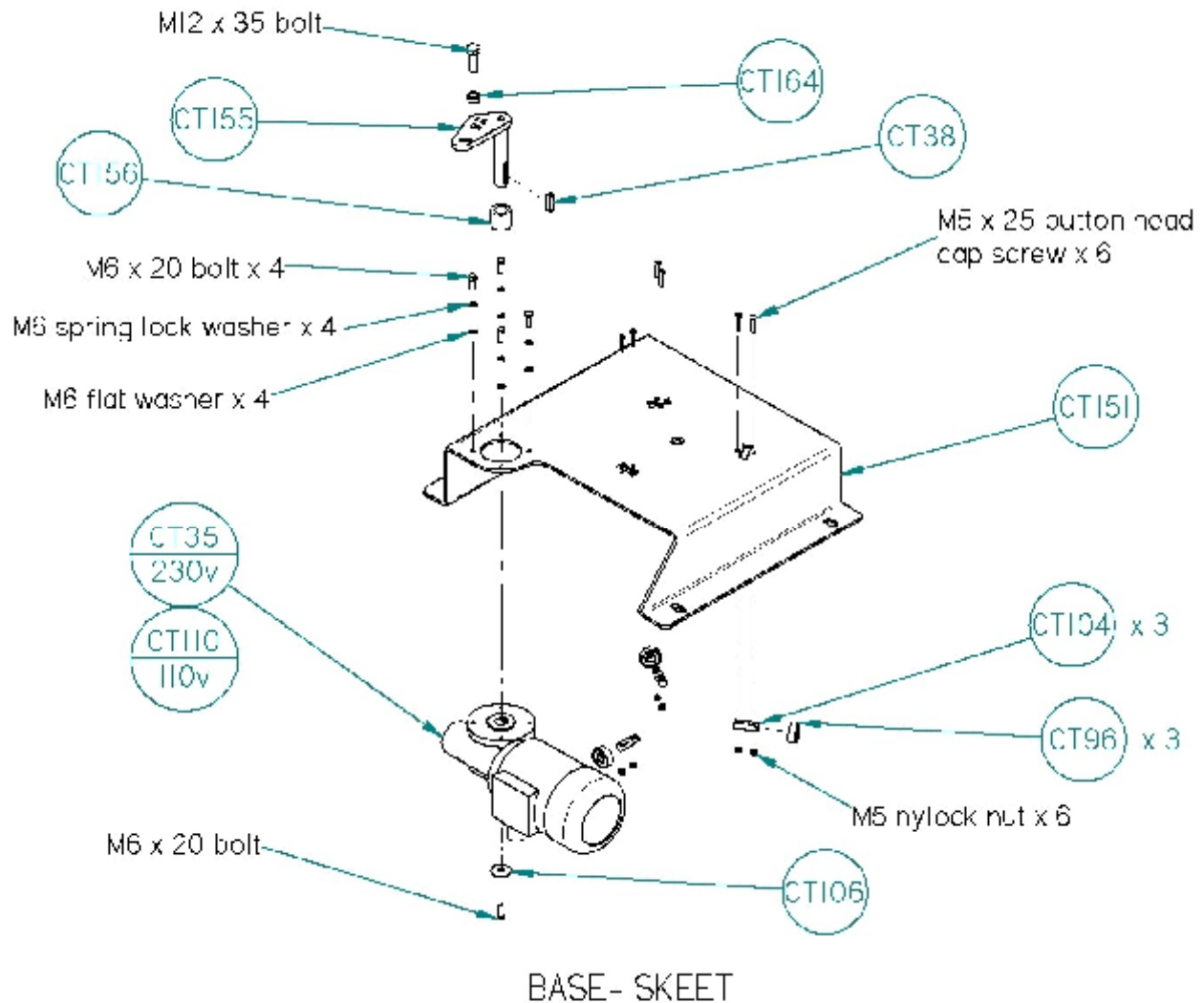
HOPPER ASSEMBLY

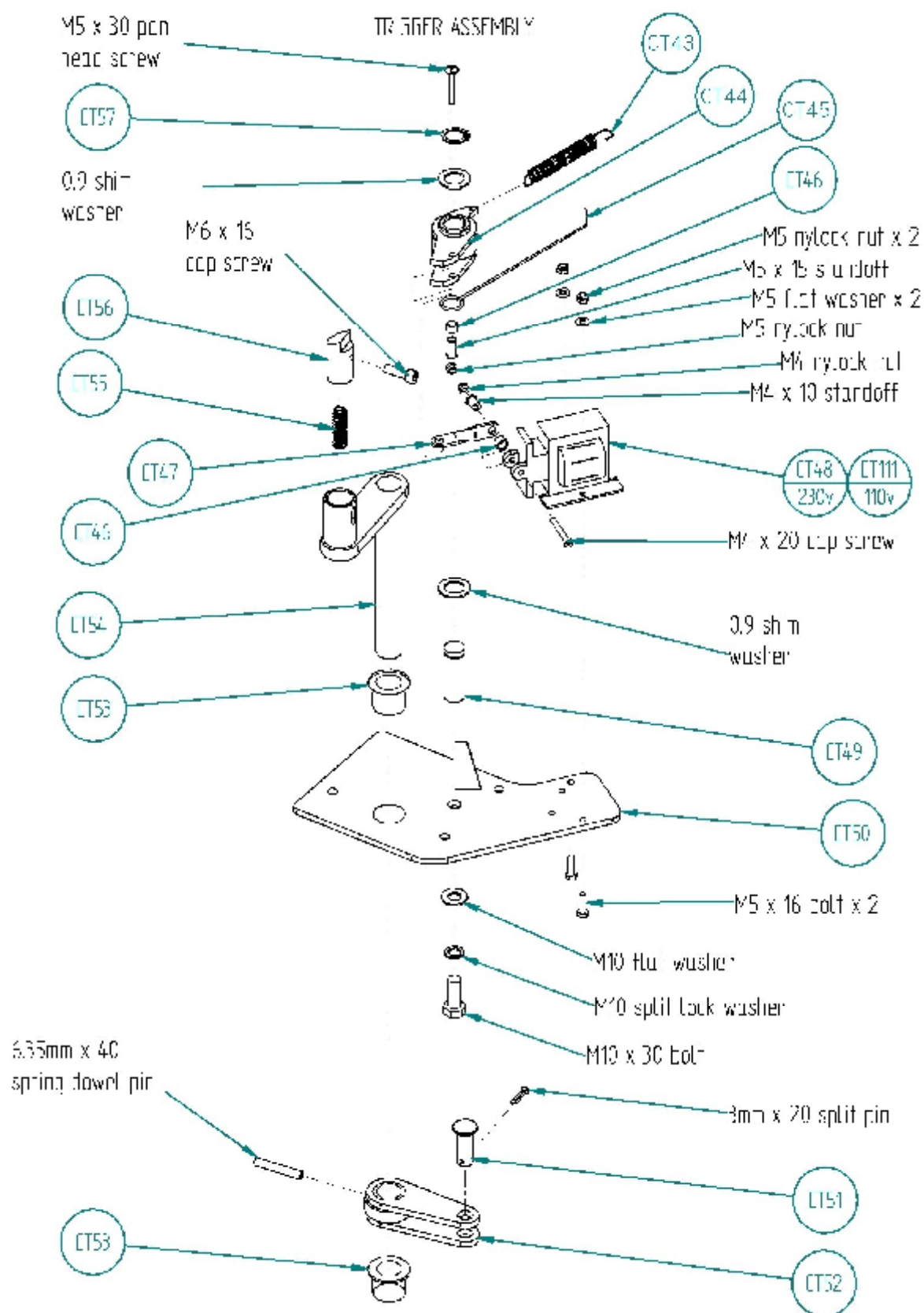


SPRAG BEARING AND THROWING ARM ASSEMBLY

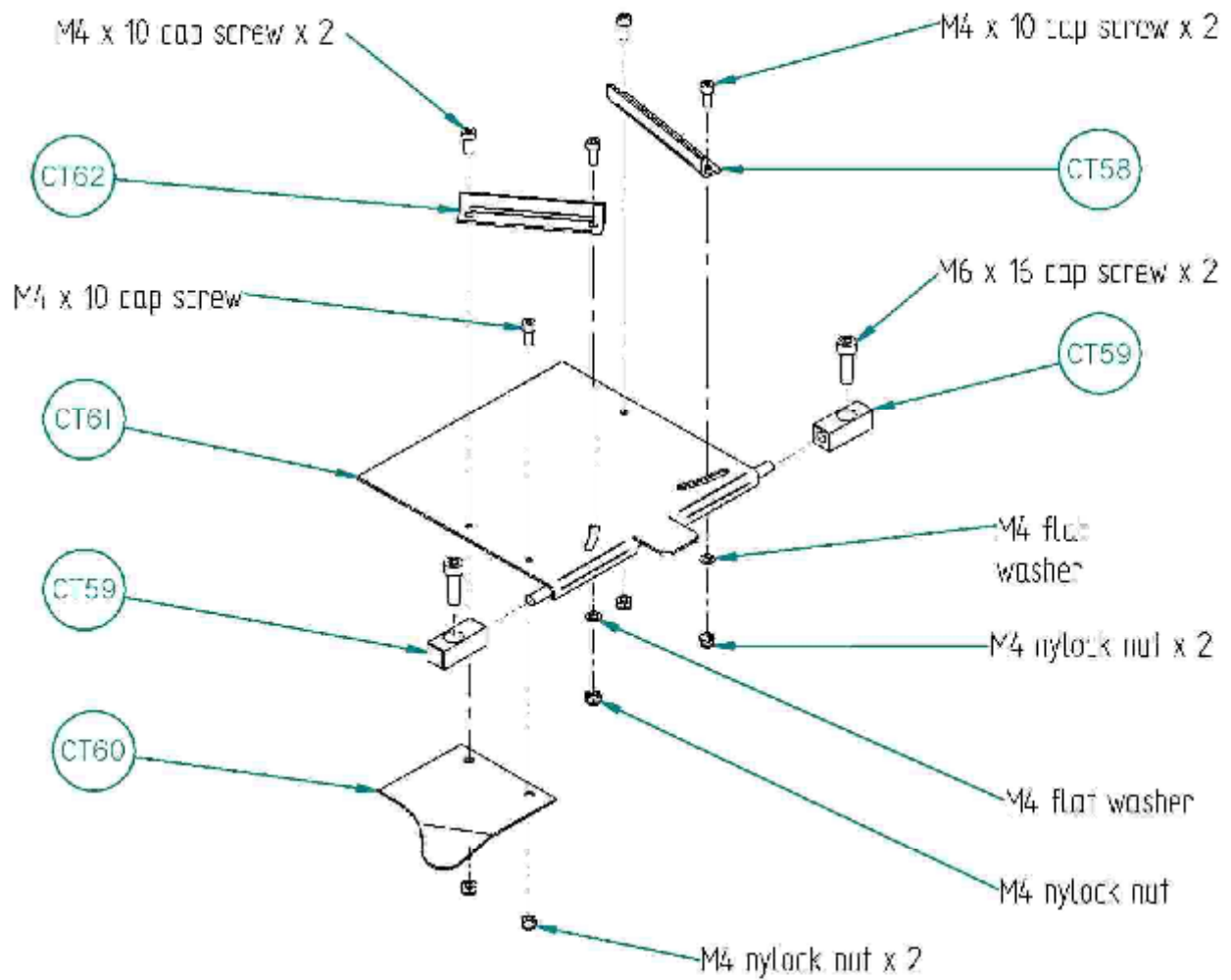


BASE- BALLTRAP, CONTINENTAL & DTL

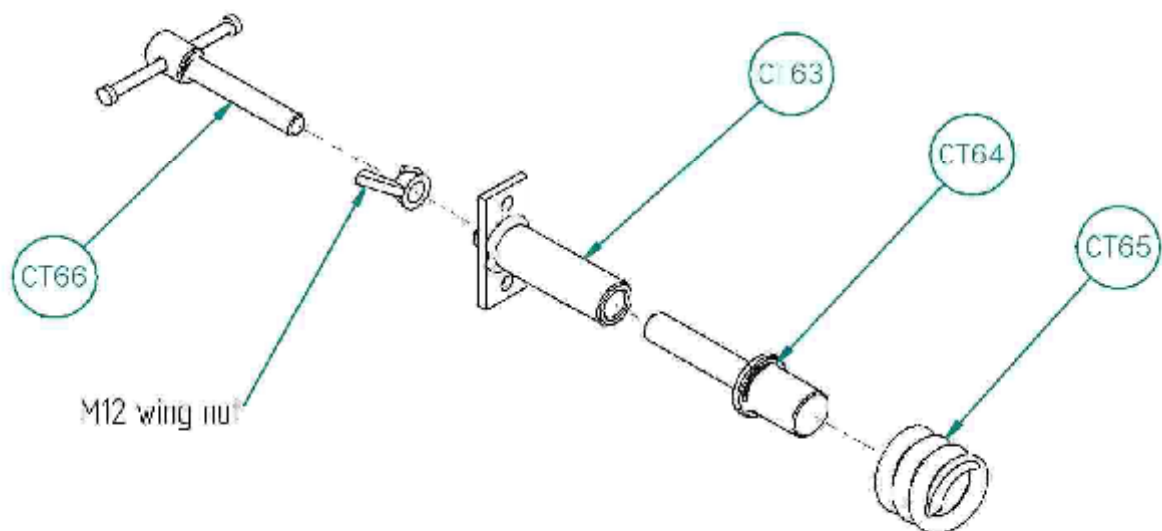




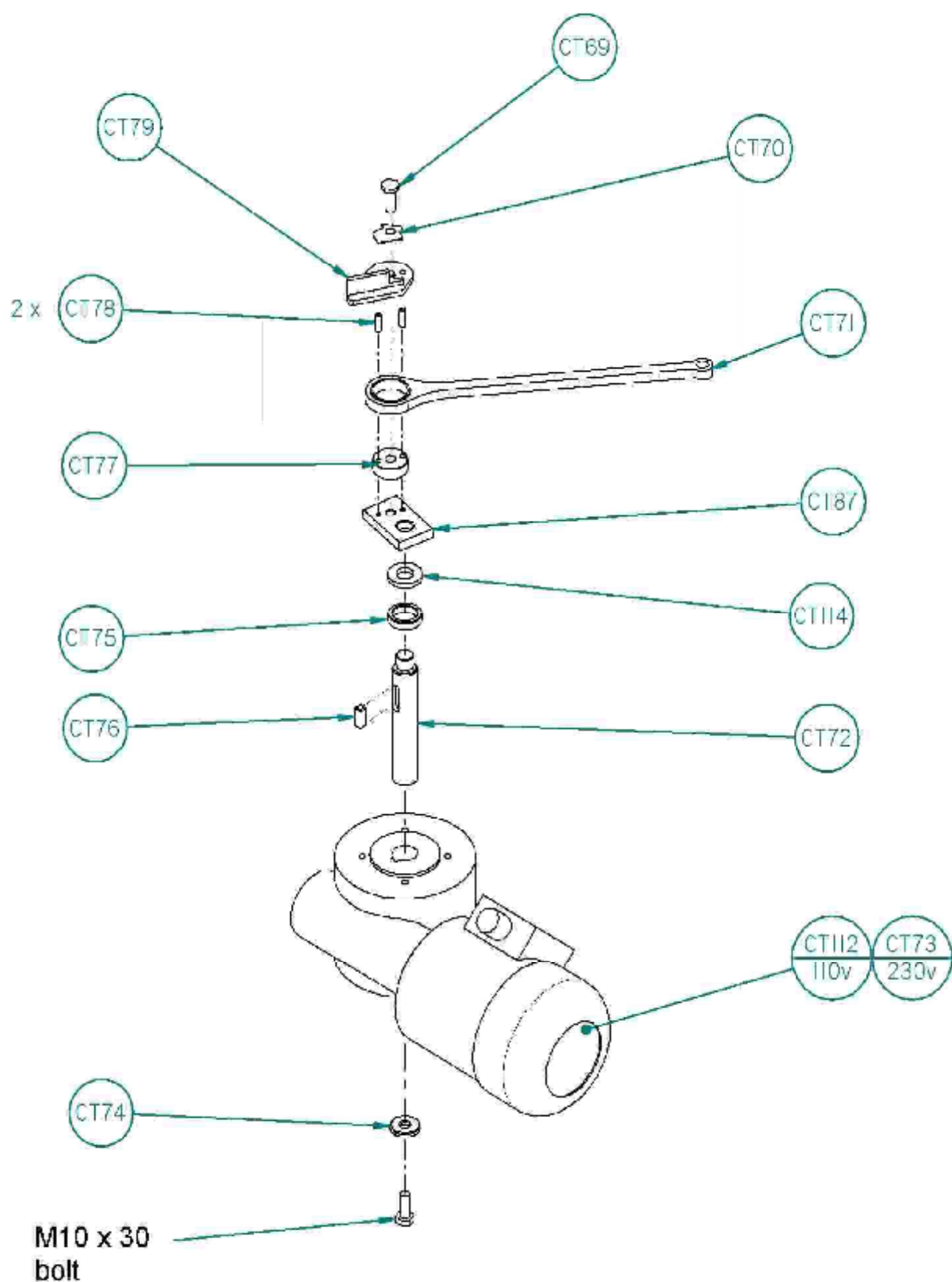
FLIP-FLOP PLATE



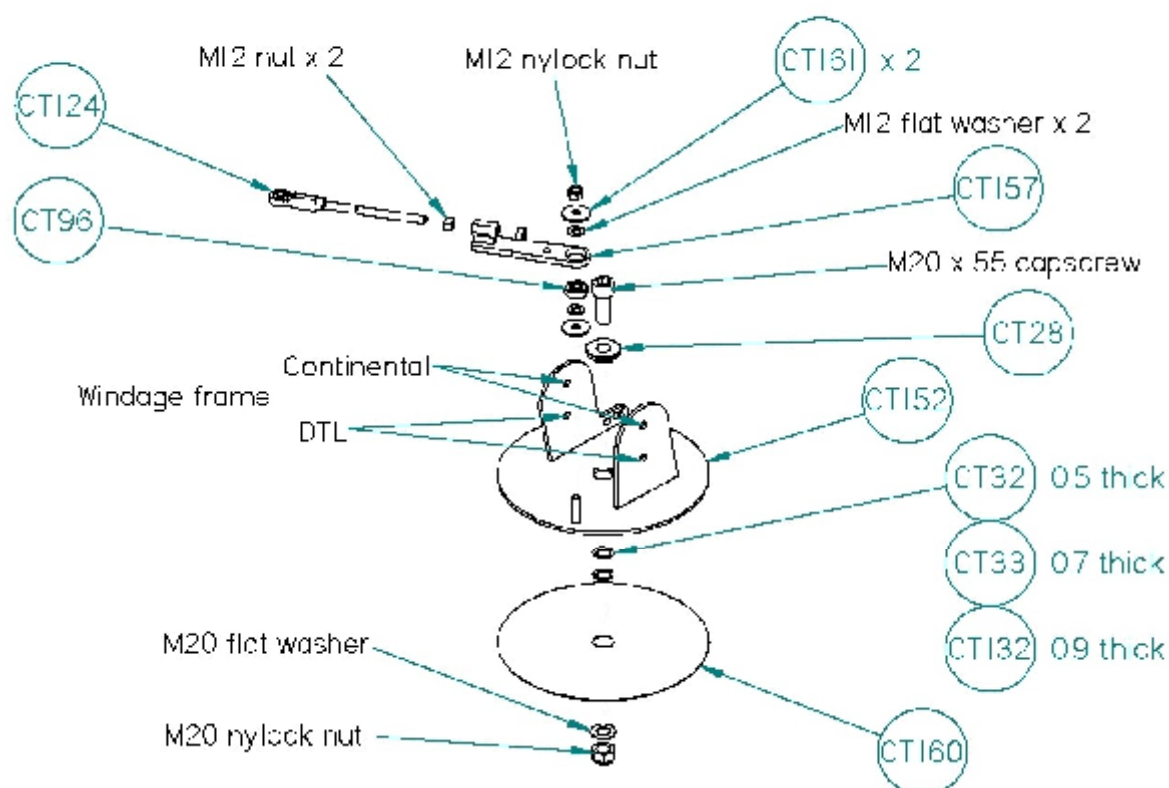
SPRING ADJUSTER ASSEMBLY



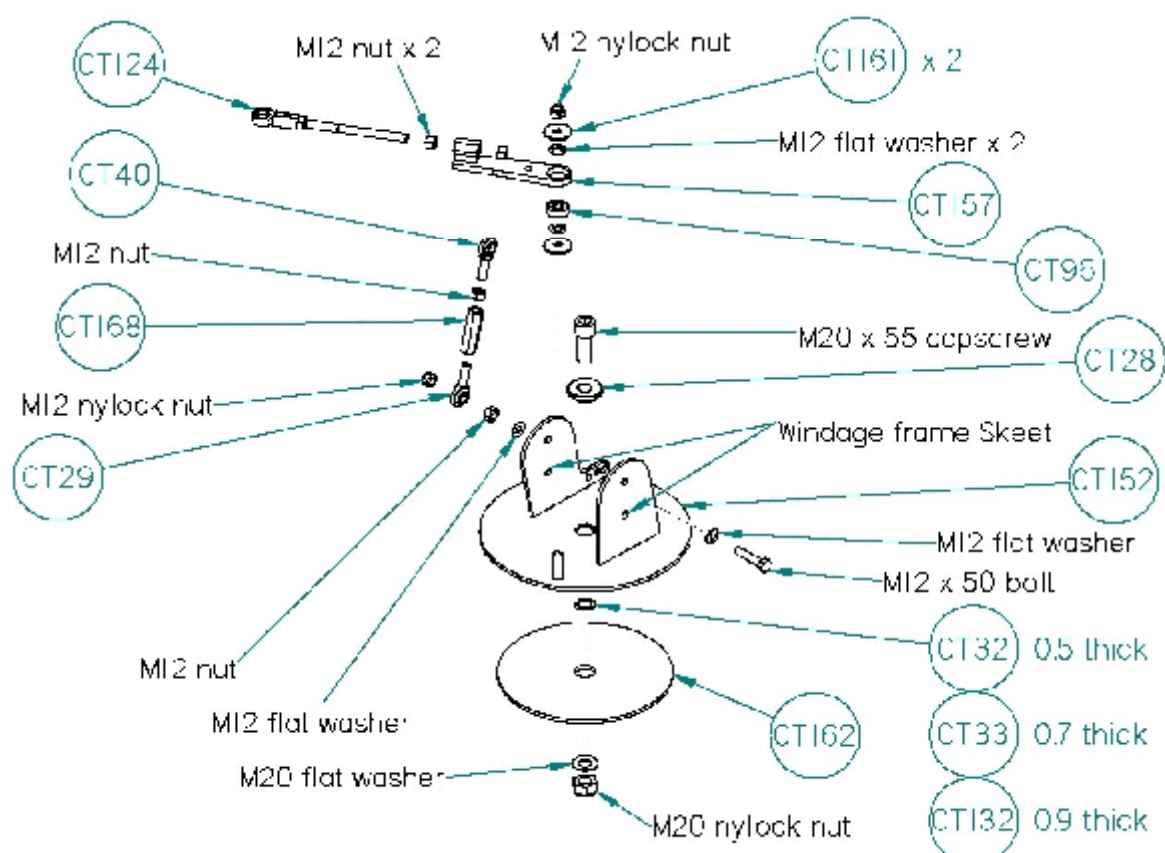
ARM DRIVE ASSEMBLY



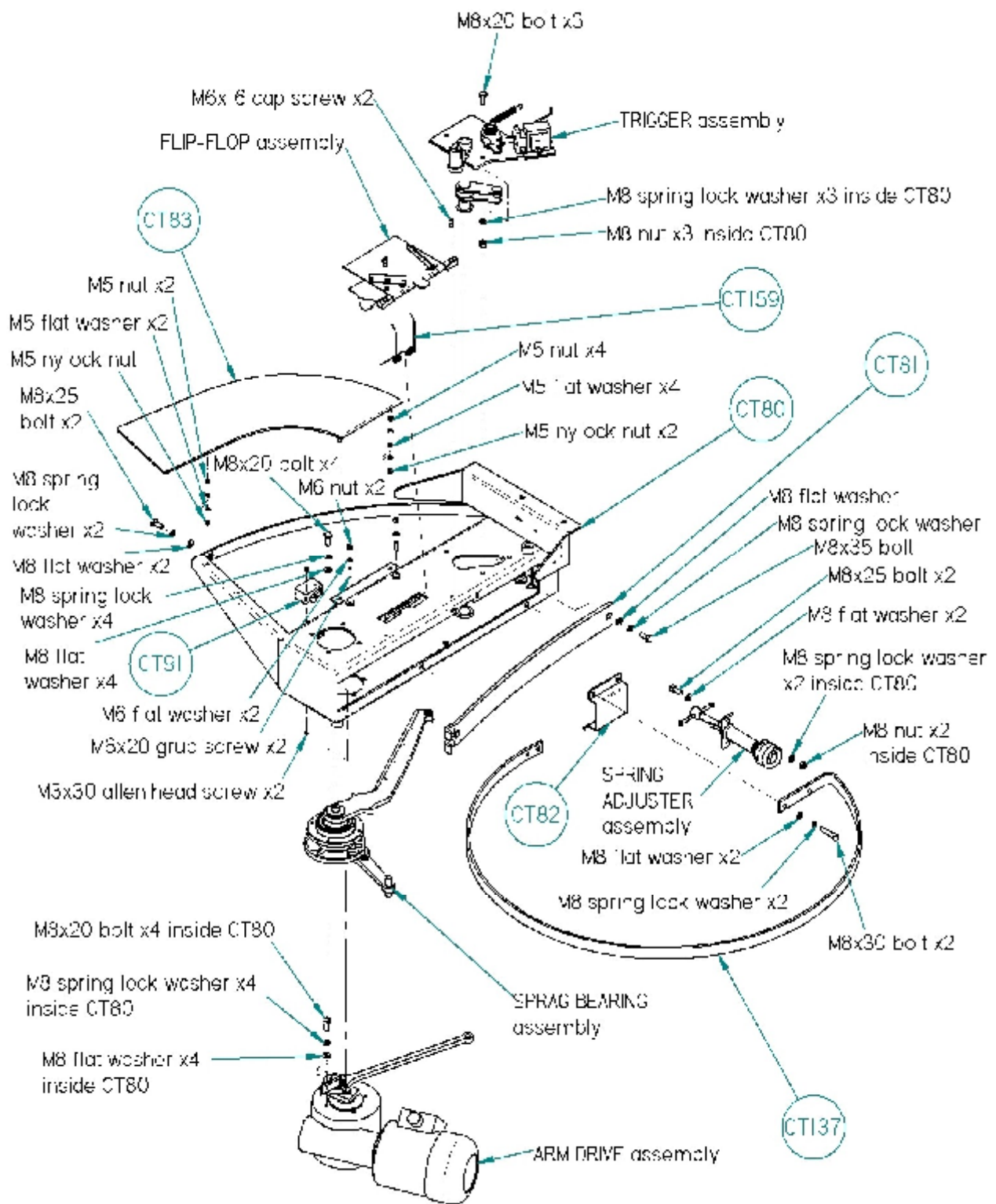
TURNTABLE- BALLTRAP / CONTINENTAL / DTL



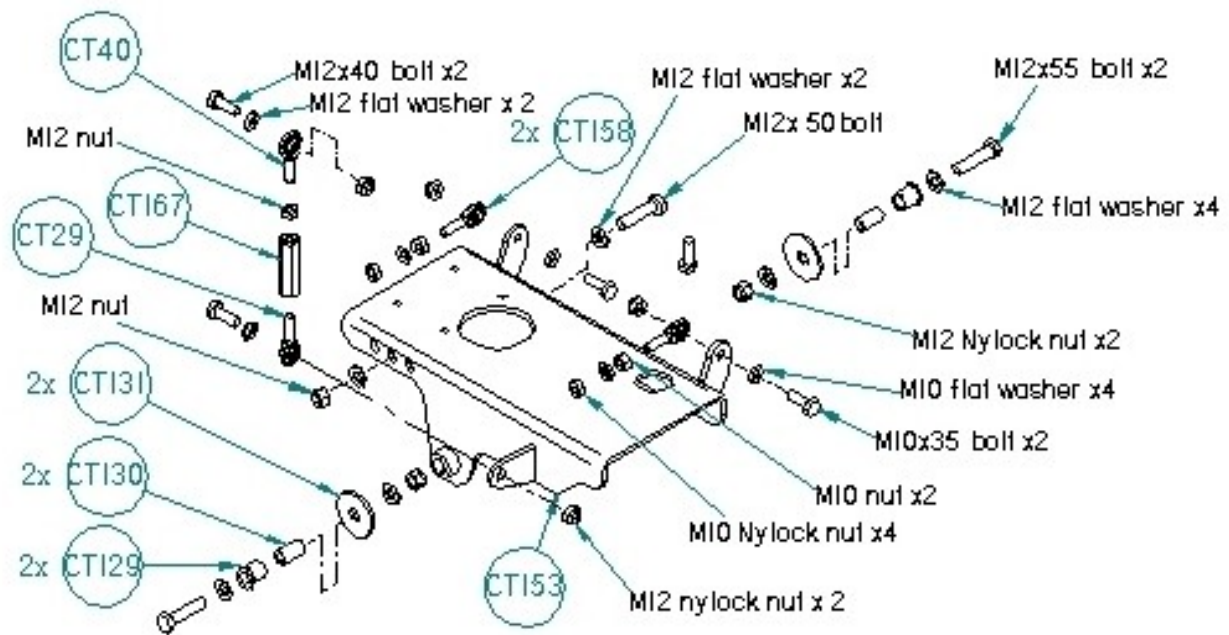
TURNTABLE- SKEET



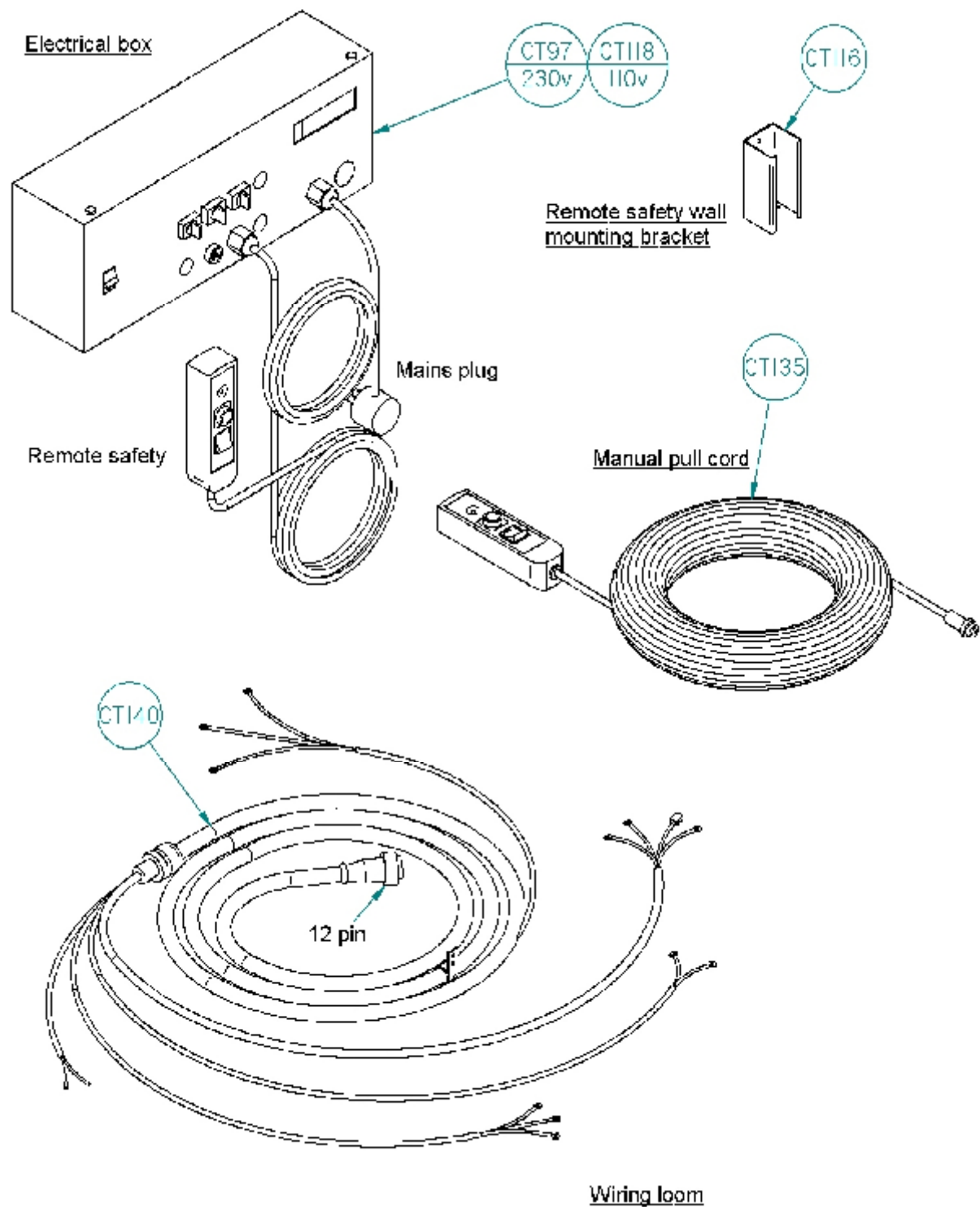
FRAME ASSEMBLY

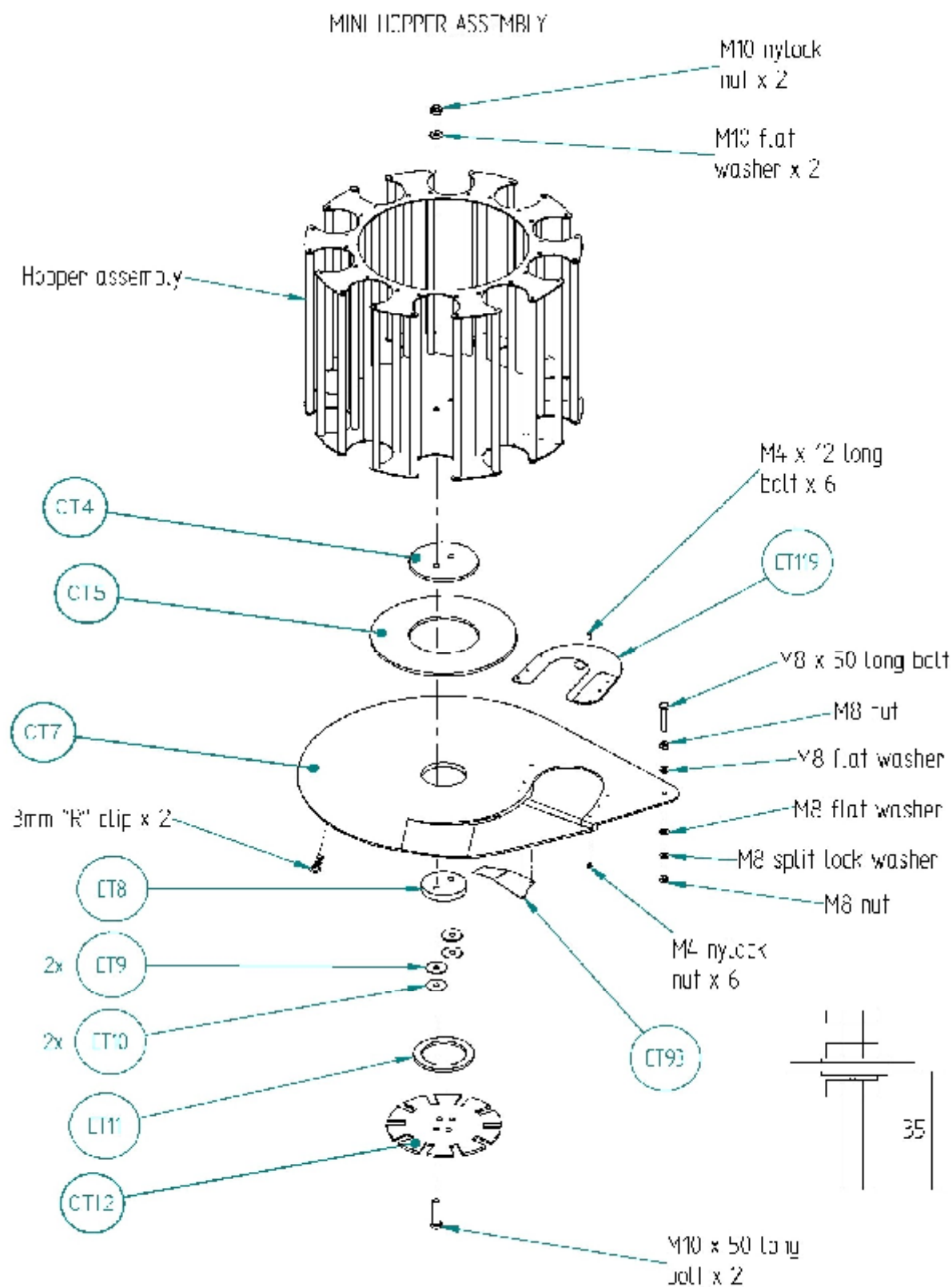


WINDAGE FRAME- SKEET / DTL

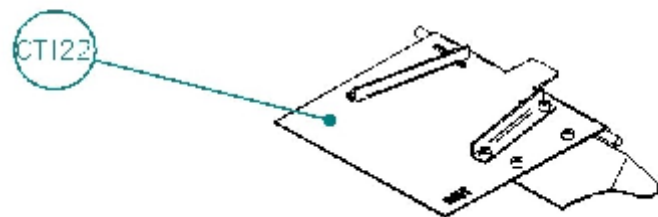
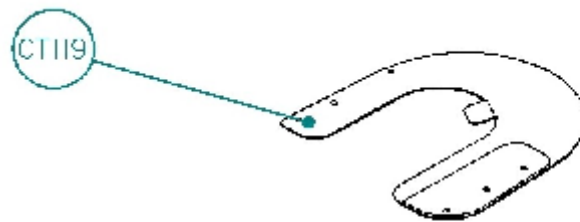
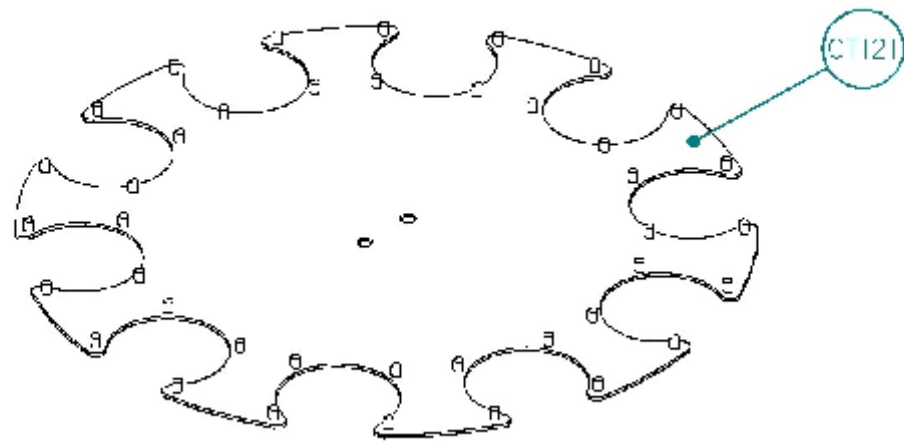
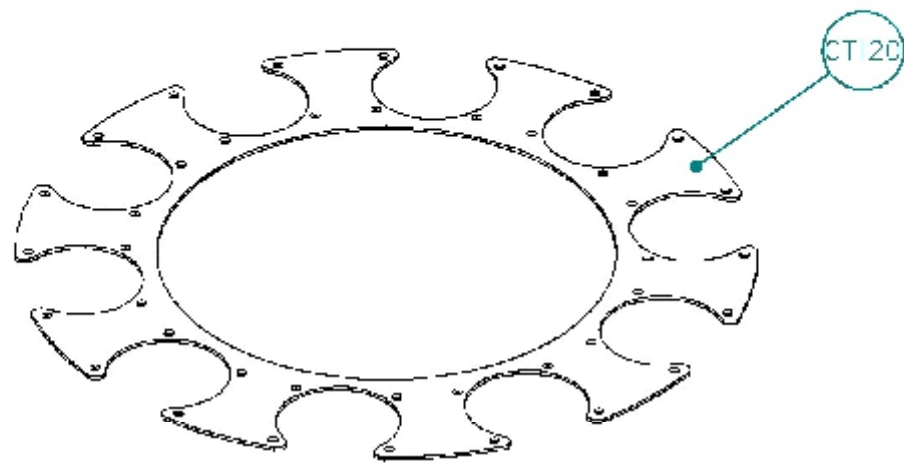


CONTROL BOX, LOOM & MANUAL PULL CORD

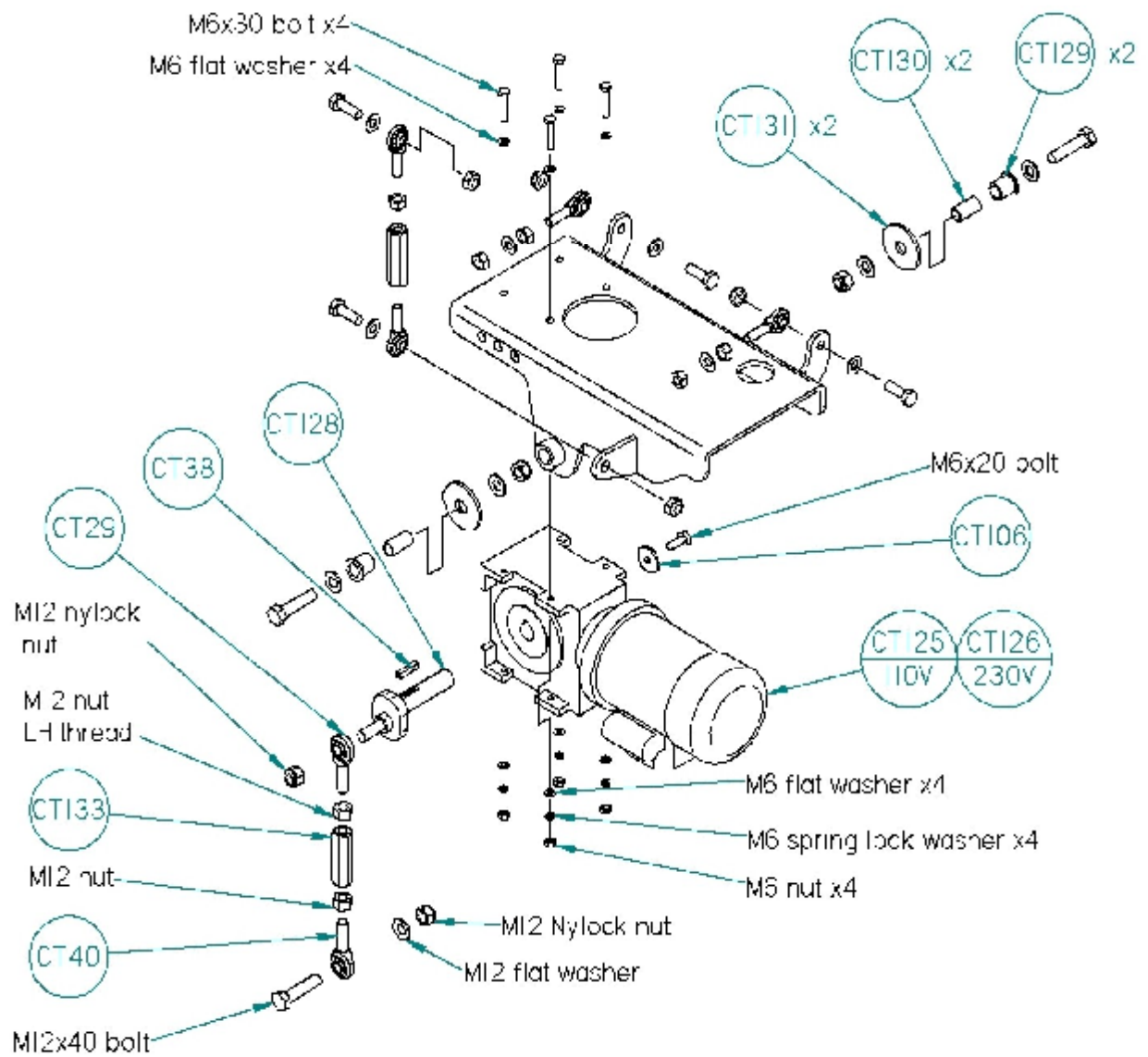


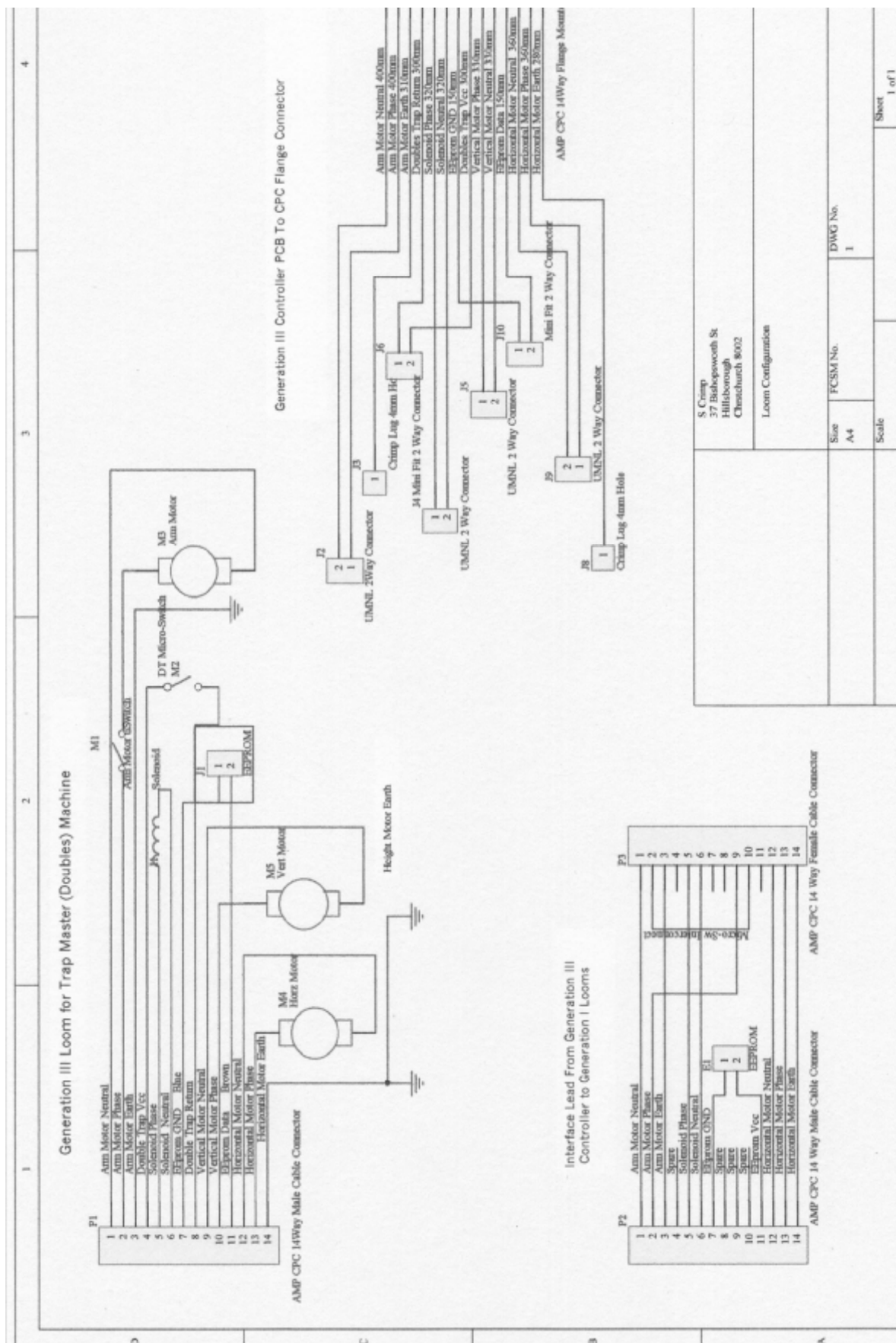


MIN HOPPER PARTS



WINDAGE FRAME- CONTINENTAL / BALLTRAP (additional parts)

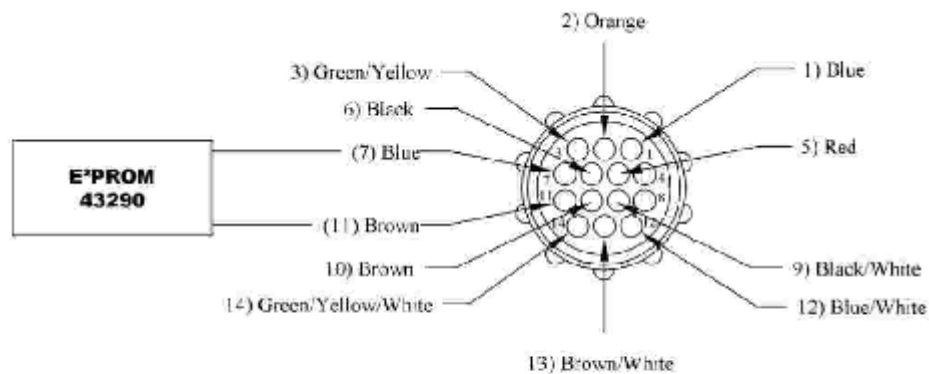




Crusader Wiring Loom 17th July 2002

Pin #	Electrical	Description	Female Plug	Male Plug
1	N	Arm Motor	Blue	Blue
2	Ph	Arm Motor	Brown	Brown
3	E	Arm Motor	Green	Green
4	Vcc	Doubles Trap	Yellow	Blue (lge Ins.)
5	Ph	Solenoid	Red/Yellow	Red
6	N	Solenoid	Black/Yellow	Black
7	E2 Gnd	E2 Prom	Black	Blue/Pale (E2Prom)
8	Return	Double Trap	Grey	Black (lge Ins.)
9	Ph	Vert Motor	Orange/White	Orange
10	N	Vert Motor	Black/White	Blue/White
11	E2 Vcc	E2 Prom	Blue	Brown E2Prom
12	N	Horz Motor	Blue/White	Black/White
13	Ph	Horz Motor	Brown/White	Brown/White
14	E	Horz Motor	Green/White	Green/White

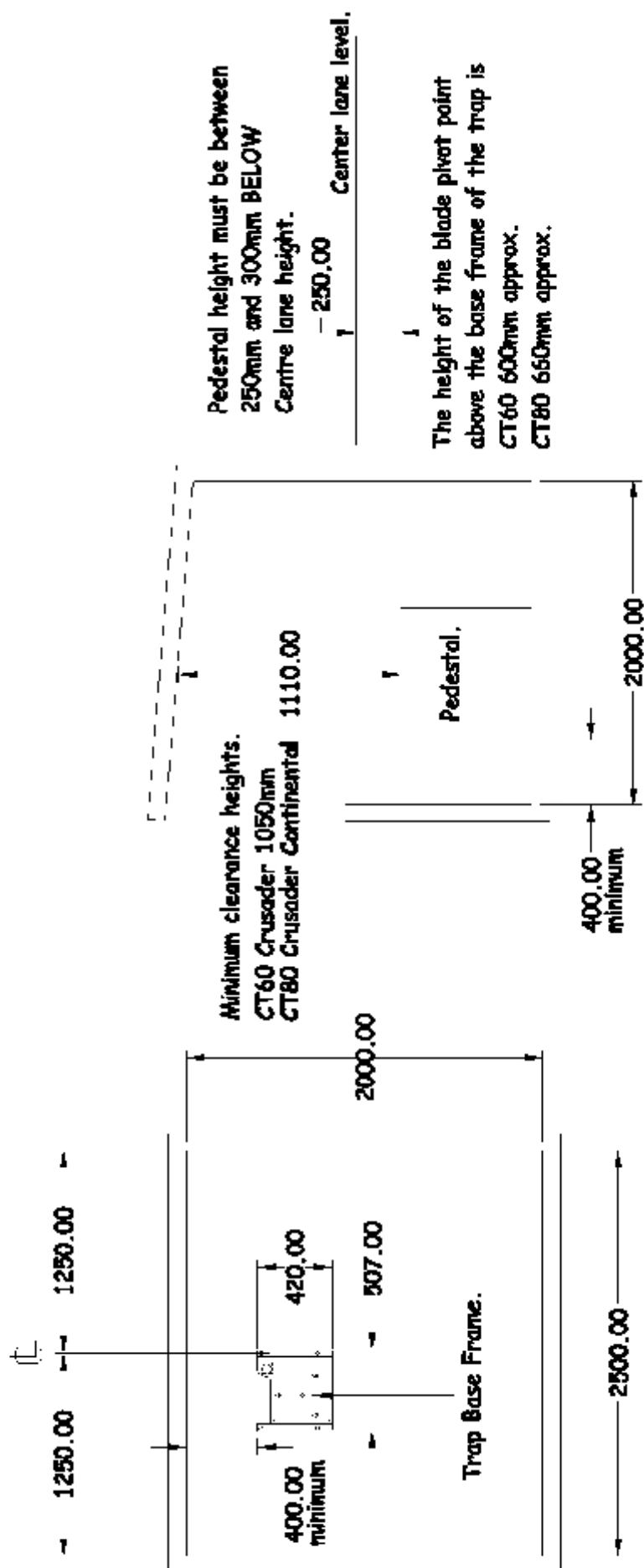
Crusader Loom JPED71



CPC Connector (49784)
Rear Plugging View

Crusader

Traphouse layout.



Traphouse end elevation.

Traphouse Plan view.



Crusader

Warranty Registration

Name:
Address:
City:
State:
Country:
e-mail:
Date of purchase: / /
Product Name: Crusader.
Model:
Trap serial No:
Control box serial No:

Canterbury Trap International reserves the right to alter or amend any specification on it's products at any time without notice.

Register on line : www.canterburytrap.co.nz

Please fax to +64 3 3844501
or
Canterbury Trap International.
PO box 19865,
Christchurch.
New Zealand

NB! This form must be returned within thirty days of purchase.