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# TOMCAT SILVER BULLET & SILVER ARROW MANUAL



INVENTIONS WITH A SOCIAL PURPOSE



**Dear Customer,**

THANK YOU FOR SUPPORTING BRITISH INDUSTRY BY CHOOSING THE FANTASTIC TOMCAT SILVER BULLET OR SILVER ARROW FROM TOMCAT SNI LTD, A "QUEENS AWARD FOR ENTERPRISE IN INNOVATION", WINNING COMPANY.

Standard cycle components apart, this product has been designed and manufactured at our Gloucester factory and what we do not manufacture ourselves is supplied or manufactured by other UK companies, so we thank you for supporting British industry by buying this very British product.

**1.CUSTOMER SERVICE:** We are proud to offer our customers the very best in product aftercare because we understand that things can change, and your vehicle may be your lifeline. Our customer service and spares department is open 6 days a week, between 10 am and 5 pm, Monday to Saturday, for technical advice, spare parts, service and general assistance throughout the life of your product.

Because your trike is entirely made in England by Tomcat, and because we have UK wide coverage for our products, if problems do occur you have the peace of mind of knowing that we can deal with your difficulty in the quickest way possible, be that advice over the telephone, an onsite visit, local authorised repair or return to our Gloucester factory.

**We hope you have many years of enjoyment and usefulness from your Tomcat Silver Bullet or Silver Arrow.**





# Physio & Fun TRIKES

## 2.Product Overview.

The Silver Bullet and its younger brother the Silver Arrow, are low sitting, fully independent trikes from the Tomcat "Bullet" range. Both are equipped with a Shimano Inter 8 (8-speed hub), a differential drive to both rear wheels and optional pedal assist. (Electric drive).

The Silver Bullet is suitable for teenagers to adults, whilst the Silver Arrow offers all the same features for children and teenagers aged 7 to 14 years.

Both were designed by Tomcat to perfectly meet the needs of persons with wide-ranging physical difficulties, from simple confidence or balance issues, right through to complex physical conditions. However, after easy access and ease of use, we believe that transportability is the single most important factor for our customers.

That is why we've built some fantastic, optional innovation into the design, including "Quick Release" frame separation, removable seating and even "Quick Releasing" drive wheels. In short, the Tomcat Silver Bullet and Silver Arrow are the most transportable trikes on planet earth.

Read on to find out all you need to know about these unique features and how to care for your tricycle.

### 3.Features.

Standard features of the Silver Bullet and Silver Arrow range, include:

- Self-centralising steering for superb handling and stability at all speeds
- Adjustable seating position for precise handlebar “reach” and telescopic cranks for perfect leg length adjustment.
- Cushioned (or optional bucket type) seating, set at the optimum height for ambulant, semi-ambulant, or wheelchair transfers.
- Front Drum brake and Rear Disc brakes.
- Shimano Inter8 hub drive.
- Differential drive axle
- Park Brake
- Upholstered, water-resistant seat cushions
- “Height and Reach” Adjustable Handlebars
- Folding Handlebar Column
- Pre-set “Seat and Pedals”

#### Optional Extras

- Swivel Seat
- Sliding Seat
- Removable Seat
- Two-Piece Frame separation for easy transportation - simple, safe and easy.
- Trike to Trailer Conversion
- Quick Release Removable Wheels
- Battery Power Assist (250W motor, 9Ah battery, Li-ion Charger)
- Puncture Proof Tyres
- Front and rear Lighting Set
- Road-Ready Safety Pack including Wheel Reflectors, pedal reflectors, Rear reflector and Flag
- Self-Levelling Pedals with straps
- Strapped foot supports
- Strapped foot supports with removable Leg Supports
- 4-point chest harness
- Removable Mudguards (essential with removable wheels)
- Removable Basket and Carrier
- Recoil Safety Lap Strap
- Custom building service to user’s requirements



#### 4. General Safety Instructions

- Observe your country's highway regulation at all times.
- Always wear a helmet and suitable protective clothing.
- Use all safety devices provided
- Do not carry passengers or allow others to stand on the rear axle or basket.
- Use the park brake when mounting/dismounting or when leaving the vehicle unsupervised.
- Do not ride over kerbs (except "drop kerbs") or other hazards that may damage or destabilise the vehicle.
- Do not use off-road, on steep inclines, heavy cambers or sloping or uneven ground.

#### Before each use.

- Ensure lights, reflectors, flags and warning devices are in good working order.
- Check tyre condition and maintain correct tyre pressure as printed on the tyre wall.
- Check you have enough power for your journey and your charger is disconnected.
- Test braking and steering functions, and ensure all removable components (wheels, seat, divisible frame mechanisms, etc) are correctly assembled in accordance with instructions in this manual, interlocked where appropriate, and in good working order.

#### 5. Technical Specification

This information relates to base models. Certain accessories may change these parameters. Silver Bullet Overall dimensions/measurements. (assembled)

O/A Length.	180cm
O/A Width	74cm
O/A Height	95cm
Overall Weight	23kg
Overall weight with power assist	28kg
Max user weight	120kg
Rider Height Range Size 2	135cm to 188cm
Max cargo weight (basket)	5kg
Crank Lengths	170/150mm
Motor Type	Ansmann Brushless FM6/250W/36V
Battery	Li-Ion 9000mAh/36V output.
Charger	Lithium Ion Charger CC/CV method

## Silver Arrow Overall

Dimensions/measurements. (assembled)

O/A Length.	165cm
O/A Width	74cm
O/A Height	95cm
Overall Weight	22.5kg
Overall weight with power assist	27.5Kg
Max user weight, SWA	100kg
Rider Height Range Size 2	120cm to 162cm
Max cargo weight (basket)	5kg
Crank Lengths	110/125mm
Motor Type	Ansmann Brushless FM6/250W/36V
Battery	Li-Ion 9000mAh/36V output.
Charger	Lithium Ion Charger CC/CV method

**Note:** UK law requires power-assisted riders to be a min 14years of age.

### 6. Manufacturer.

The product is designed and manufactured in the United Kingdom in compliance with EEC Directive 93/42, by Tomcat SNI Ltd.

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## 7. Setting Up the Pedals and Seat to suit the Rider. (Ergonomic Adjustment)

### 7.1 Models with Pre-Set "Pedals and Seat" models.

#### Adjusting Setup.

The Standard "Pedal and Seat" setup for a single rider (leg length and arm reach respectively) is factory set after custom building, to the riders own physiology, however, both can be adjusted as follows.

#### Seat.

Beneath the left and right side of the seat are two hexagon headed screws.

Slacken each screw by one or two turns only and slide the seat to the desired position. Re-clamp the screws to secure the seat. Note that adjusting the seat will affect the leg length therefore adjustment of the pedals may also be necessary.

#### Pedals

Remove the chain, slacken the Sliding Bottom Bracket clamp, and roughly adjust the Sliding Bottom Bracket to achieve a comfortable leg stretch. A new chain made to a suitable length is then attached. The Sliding Bottom Bracket is then finely adjusted and re-clamped. Chain tension must be neither slack nor tight, but quiet running and free to move.

### 7.2 Models with Pre-Set pedals and (optional) sliding seat.

To slide the seat on models with Pre-set pedals, sit on the seat and move the seat by pulling the seat slide knob outwards until you are at a comfortable leg length. Release the Knob to lock the seat.

Note that the pedal position can be adjusted by following the pedal adjustment procedure described above.

## 8. Operation and Maintenance.

### 8.1 Self-Centralising Steering – (SCS). Patent Granted.

The Self Centralising Steering system is a Tomcat innovation that smoothly returns your steering to “straight-ahead” after a turn, (in much the same way as a car’s steering). This maintains a stable and positive "feel" to the steering at all speeds. The SCS leaves the factory at the optimum setting for an average adult male rider on Silver Bullet versions and an average 14year old on Silver Arrow versions.

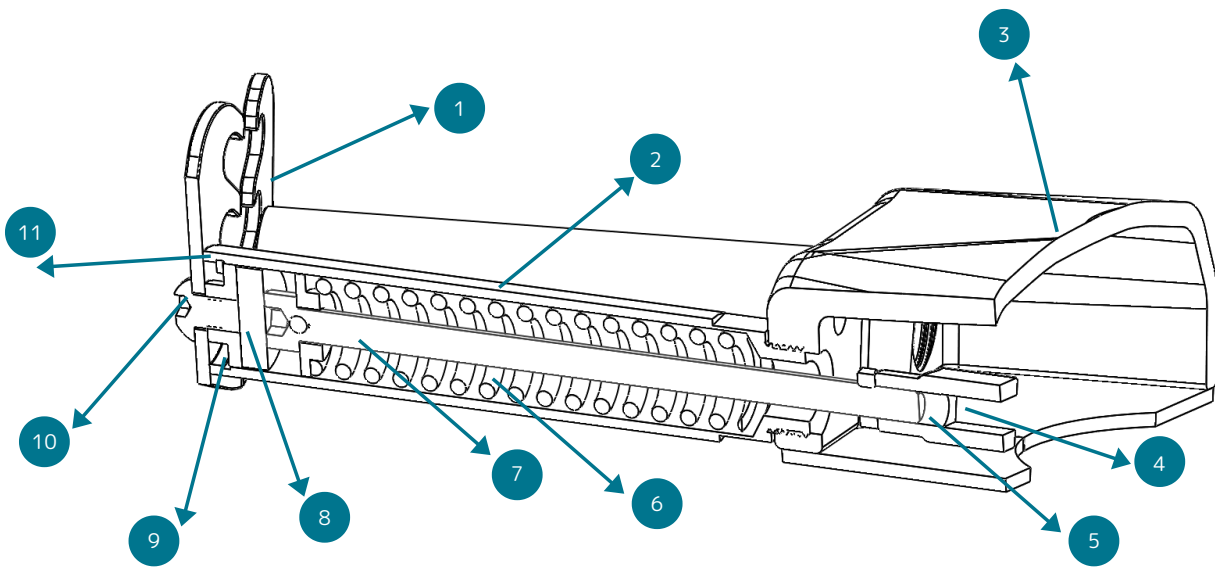
Very slightly built persons or those with low arm strength or grip may find the SCS return force to be greater than they need or are able to comfortably manage. In these exceptional cases, the self-centralising force can be reduced, and it will be necessary to fit softer springs to the SCS to reduce the self-centralising effect.

To fit new springs (which are available from Tomcat), proceed as follows.

**Self-Centralising Steering Adjustment. p7.**



## Checking or replacing springs.



1.Remove the spring cylinder lockplate screws (10) and the lockplate itself (1).

2.Remove the circlips (11) retaining the lockplate nut (9)

3.Now use the lockplate screw (10) to draw out the lockplate nut (9) to expose the rubber buffer ring. (8)

4.Use a screwdriver etc, to remove the buffer ring. (8)

5.Measure the distance between the head of the cap screw (7) that is now visible, and the end of the spring cylinder (2). Make a note of the measurements.

6.Remove the Cap screws (7) carefully as parts may fly.

7.Withdraw the compression washer and spring. (6)

8.Remove the cover plates from the underside of the SCS body. (3)

9.Grease all working parts with a medium, waterproof, bike grease.

10.Refit the new springs complete with compression washer and screw.

12.Check that the threaded end on the screw (5) is level with, or within +/- 2mm of the bottom of the slot in the clevis. (4)

### Aligning the steering. (after spring replacement or at any other time)

You can align the steering by adjusting the individual spring compressions. Follow the procedure to 4(above). Ideally, the steering will be dead ahead with the ends of both screws flush with the bottom of the clevis slots, but if the trike steers to left or right, adjust as follows.

- Check that the steering head bearings are well adjusted and move smoothly and freely.
- Replace if rough or worn. It is advisable to block up the front of the trike so the front wheel is slightly clear of the ground when adjusting the steering alignment.
- If the trike steers left when no rider is sat on it, slacken the left spring (counter-clockwise), by half a turn of the left screw.
- If that is not enough, tighten the right screw (clockwise) by half a turn.
- If that is still not enough, slacken the left screw by a further half turn and so on until the steering is central.
- Re-aligning steering that steers to the right is a mirror of the left procedure.
- The screw end MUST be within  $\pm 2\text{mm}$  of the bottom of the clevis slot when adjustment is complete. If there is still a problem, set both screw ends flush with the bottom of the clevis slot and start again as above.
- Replace cover plates, buffers, lockplate nuts, circlips, lockplate and screws in the reverse order to disassembly.

## 8.2 Brake Maintenance and Adjustment.

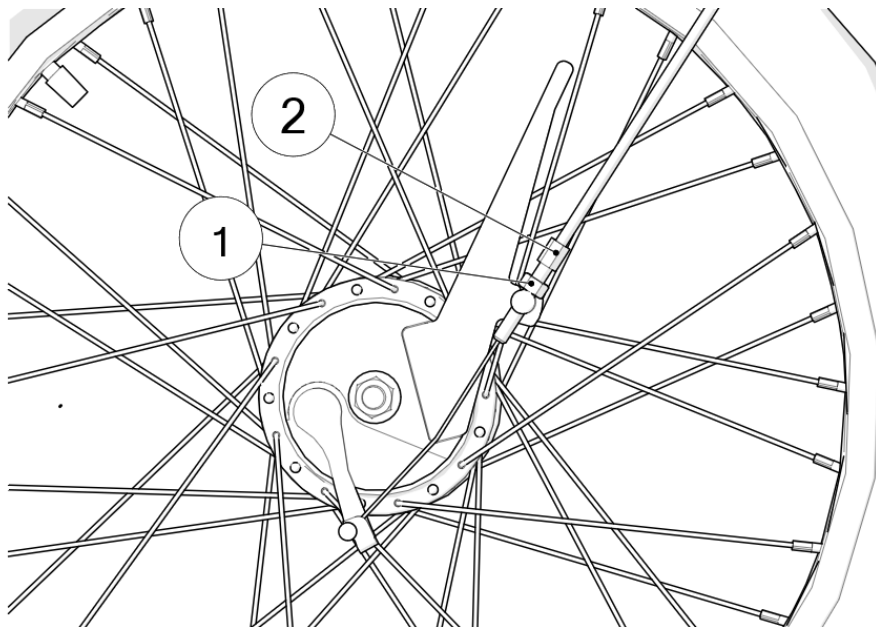
### Brakes.

The vehicle has a front drum brake as default (but may additionally be fitted with a front calliper for certain specifications). Rear brakes may be a disc brake or Shimano Nexus coaster brake built into an Inter8 Hub. This unit is not user-serviceable but should be kept clean and free of mud, sand and salt for maximum service life.

All brakes are selected and paired to ensure balanced braking under normal conditions, however, adverse weather conditions such as greasy road surfaces, rain, ice and snow can greatly reduce braking performance. Take greater care in poor conditions. The front Sturmey Archer 70mm drum brake, similarly, requires little maintenance but is user adjustable.

### Sturmey Archer Front Drum Brake.

- Slacken the brake adjuster locknut (1).
- Turn the adjuster (2) until the brake is applied.
- Slacken the adjuster until the wheel can just be turned freely.
- Tighten the locknut (1).



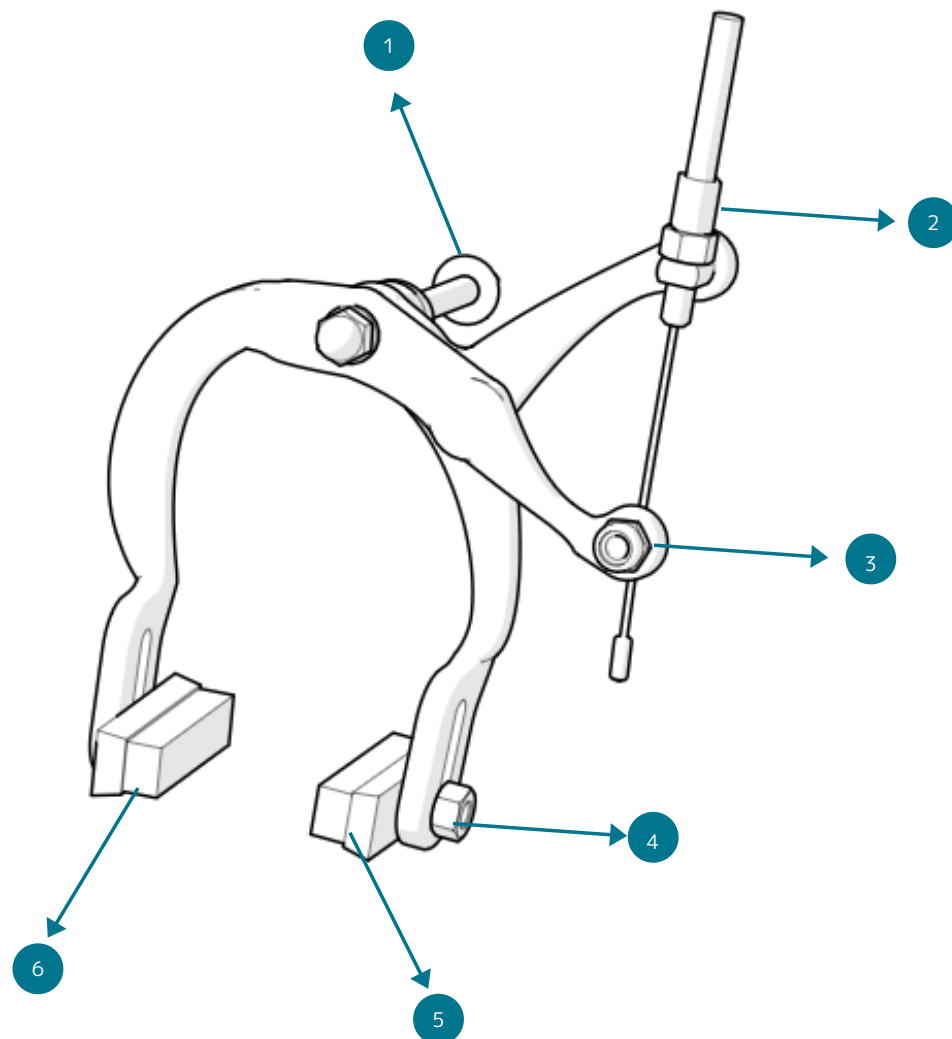
### Front Calliper (where fitted).

Periodically check the thickness of the brake pad and replace when the pad is less than 3mm. Ensure the pads make full surface contact with the wheel rim and does not rub the tyre. Adjust the pad position if necessary.

For efficient braking, set the calliper up so that there is an even gap of 1.5 - 2mm between each pad and the wheel rim in the following manner.

- Push the right-hand pad (6) fully against the rim and adjust the left pad (5) with the screw adjuster (2) to achieve 3-4mm of clearance between pad and rim.
- Release the right pad (6) and operate the brake several times. If either pad is touching the wheel, slacken the securing nut (1) centralise the calliper assembly, then retighten the nut.

(Fig 1)





## Rear Disc Brake

### Promax Rear Brake Adjustment (when Fitted).

The Promax Disc brake calliper is of the fixed and moving anvil type. Each supports a brake pad which is arranged either side of the disc. When the brake wire is pulled by the brake lever, the moving anvil and thus the pads are forced against the rotating disc causing the vehicle to slow or stop.

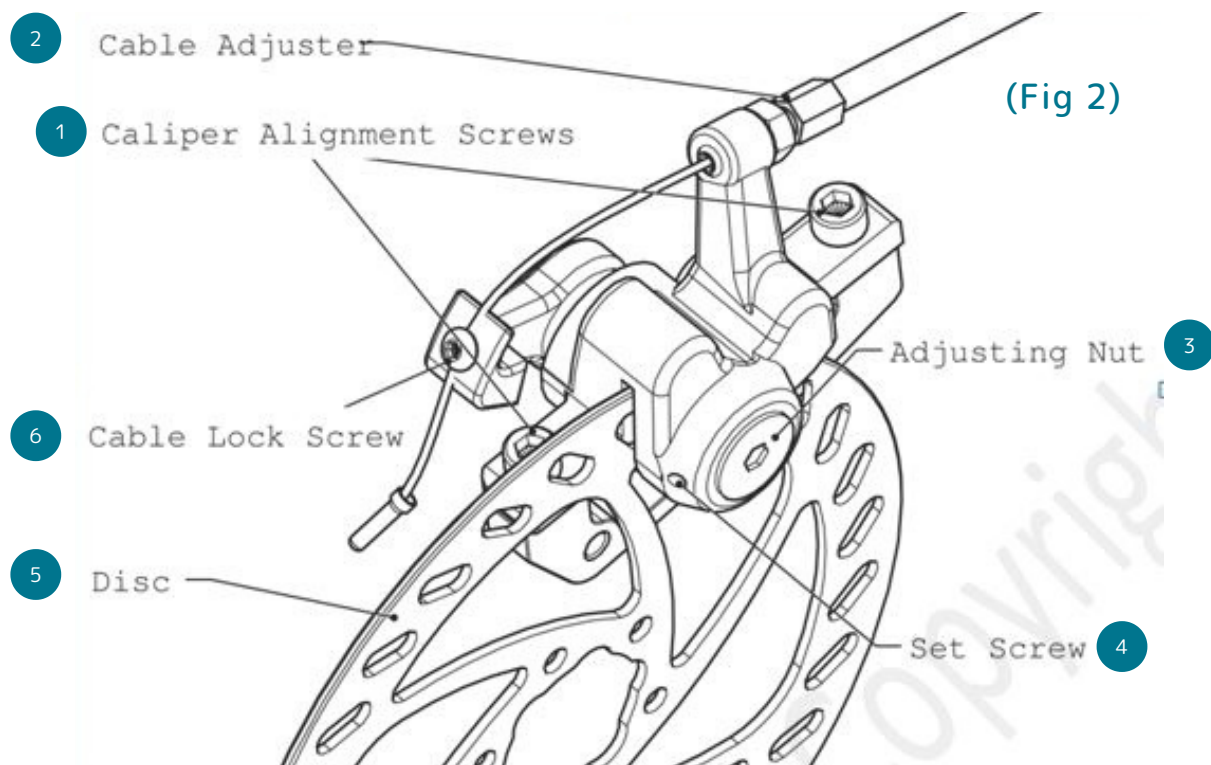
To set up the calliper, it is first necessary to set the moving anvil (and its brake pad) in close contact with the disc so that the slightest movement causes the pad to press against the disc. The calliper is then locked in position, the fixed anvil adjusted, and finally, the brake cable adjusted to suit the calliper setup.

Proceed as follows.

- Slacken the calliper alignment screws **(1)** on the Promax drawing) until the body of the calliper slides freely (approx. 1/2 turn)
- Slacken the fixed anvil setscrew **(4)** by two turns.
- Tighten the Adjusting nut **(3)** until the fixed anvil tightens firmly but not tightly against the disc.
- Tighten the calliper alignment screws. **(1)**
- Slacken the fixed anvil **(3)** by two full turns and inspect. There should be no gap between the moving pad and the disc. Check with a 0.05mm feeler if in doubt.
- Spin the disc to ensure the moving pad is not bearing too heavily on the disc. a slight rubbing sound or very slight friction is normal providing it is not slowing the disc.
- Tighten the fixed anvil with the adjuster nut **(3)** so that the pad is as close as possible to the disc without slowing the disc. A slight rubbing sound or very slight friction is normal providing it is not slowing the disc.
- Tighten the setscrew **(4)** very lightly to lock the adjuster nut in place.
- Check the axle still spins freely
- Screw the Cable Adjuster and its locknut **(2)** fully home.
- Pull the cable to remove all free movement in the mechanism and clamp it to the arm.
- Operate the brake lever and observe any movement that occurs before the arm moves. If it is excessive, adjust with the adjuster and locknut or re-clamp the wire. Full braking contact should be achieved before the brake lever reaches the handlebar grip. Adjust if necessary.
- The brake is now ready for use.

Repeat this process when braking efficiency deteriorates, the pads become worn, or when the disc visibly buckles when the brake is applied.

When it becomes necessary to replace the pads, follow the Promax instructions below. It will be necessary to remove the calliper and follow the above procedure during reassembly and setup. If in doubt, consult a competent cycle technician.



### 8.3 Self-Levelling Pedals. (Optional)

Where fitted, Self-Levelling Pedals give a good degree of additional support to the foot that can prevent the foot from slipping off the pedal. These accessories do so by providing a broader, deeper, pedal platform that is additionally provided with an angled and length adjustable strap.

When correctly adjusted, the user puts their foot through the strap at an angle, then straightens the foot as normal. This causes the strap to grip the foot across the instep, thus preventing the foot from rising or slipping off the pedal.

### 8.4 Sliding Seat. (Optional)

The sliding seat has a smooth sliding front to back movement of 150mm.

It is used in conjunction with the adjustable handlebars to achieve a comfortable arm "reach" for the user.

To adjust the seat position, pull on the locking knob beneath the seat and whilst holding the knob out, move the seat to its desired position. Release the knob and check that it has relocked where required.

[See Sliding Seat Video here.](#)

### 8.5 Swivel seat. (Optional)

The swivel seat is an aid to getting on and off the vehicle with greater safety. It has three self-locking positions, Left, Right and Central. The rider normally accesses from the pedestrian side of the road and when seated, rotates the seat to the central position, passing their leg over the frame as they do so.

The seat is operated remotely by a small trigger lever. This can be mounted in a variety of positions depending upon model and optional features. Operating the trigger will release the latch and allow the seat to turn.

### 8.6 Removable seat. (Optional)

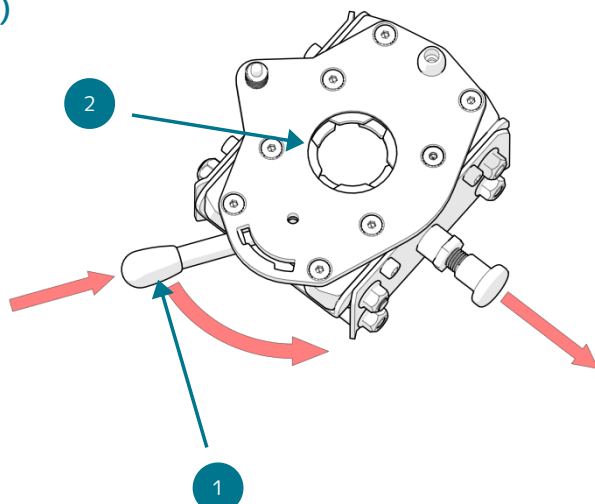
The seat is removable as part of the vehicle's transportation feature.

**IMPORTANT! Before removing the seat, rotate the seat to the central position!**

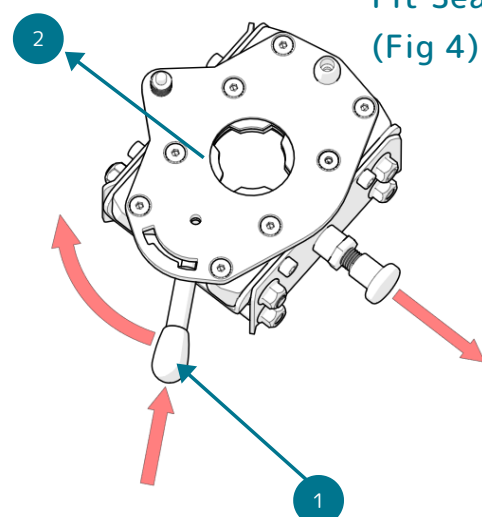
The lever (1) is situated beneath the front of the seat in order that it cannot be released by a seated person. To remove the seat, first, steady the seat with your free hand, then press on the end of the seat release lever (1) until the lever can be slid sideways in an anticlockwise direction (about a sixth of a turn). The seat will feel loose and can be lifted off the seat trolley.

To refit the seat, fully locate the seat in the bayonet socket (2) of the seat trolley. Push down firmly on the seat then repeat the above process in a clockwise direction.

Remove Seat  
(Fig 3)



Fit Seat  
(Fig 4)

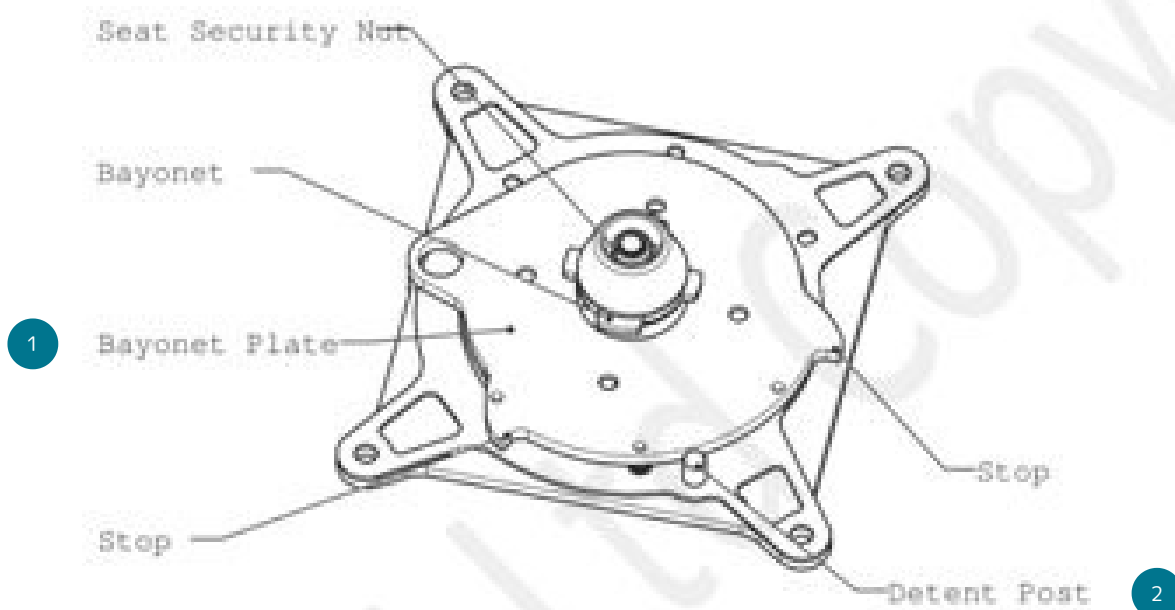


### If the Seat Cannot be refitted! Two things may be wrong!

- Check the trolley bayonet lock is fully open as shown in Fig 3.
- The seat may not have been central when removed. If so, try to refit the seat in the orientation it was removed (usually toward the pedestrian side of the vehicle). The bayonet is designed to only allow the seat to fit in the correct way and will only allow it to be refitted in the orientation in which it was removed.
- Alternatively, reset the swivel to the central position by rotating the "Bayonet Plate" (1) until the detent post (2) is mid position as shown in Fig 5. Now fit in the normal way.

If the seat feels loose or wobbly, do not continue to use the vehicle. Refer to the maintenance instructions.

Fig. 5



### 8.7 Water-resistant seat cushions.

Seat and backrest cushions are covered in a nylon coated polyurethane material that is impervious to liquids so liquids falling on the seat will not be absorbed by the cushion cover or inner foam cushion. If the seat should become wet or need cleaning, it can be dried with towels and hygienically cleaned with mild household detergents for almost immediate re-use. However, it should not be pressure washed, or unnecessarily or continuously exposed to the elements as this may encourage mould to form between the cushion and back-plate.



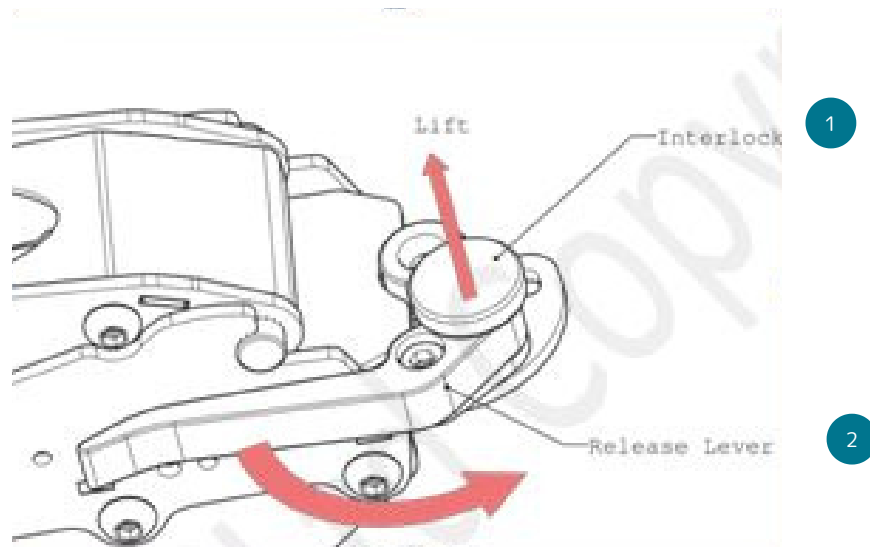
### 8.8 Two-Piece Frame. (Optional) Patent Pending.

To disassemble the frame, first move the vehicle to clean, dry, level ground.

- Deploy the kickstand beneath the vehicle frame.
- Lift the vehicle onto the stand so that the front wheel is slightly off the ground.
- Lift the interlock plunger (1) (Fig 6) and hold it raised, whilst shifting the release lever (2) anticlockwise about a sixth of a turn. Release the interlock before letting go the release lever. The release lever must stay OPEN.
- Grasp the front section of the vehicle with both hands and lift the front wheel from the ground, enough to be able to slide the front section backwards.
- The front section can be fully removed when slid backwards by about 1cm.
- Refitting is a reversal of the above process.

The Frame separation system is unique to Tomcat and protected by patent pending No GB 1905636.5.

Fig. 6



## 8.9 Folding Handlebar Column.

The Handlebar column can be folded before or after the Two-Piece Frame is Dissembled.

To fold the handlebars, align the wheel with the frame then fully pull the latch lever away from the column. Slide the lever sideways, to the left, to release the interlock; then the handlebars can be folded. To reset, unfold the handlebars and close the release lever. The interlock will automatically operate. **See Maintenance for adjustment instructions.**

## 8.10 "Height and Reach" Adjustable Handlebars (Optional)

In combination with the sliding seat, the handlebars can be adjusted to achieve a comfortable "reach" for the rider. To adjust, slide the button of the clamp interlock to the open position, then pull the lever open. The handlebars can now be moved and rotated to the desired position. Close the lever to re-lock.

## 8.11 Removable Mudguards. (Optional)

Removable mudguards are an essential companion of removable wheels and must be removed before the wheels are disassembled. To do so, pull out the small plunger where the mudguard attaches to the frame and lift the mudguard off the vehicle.

The plunger will automatically operate when refitting. It is good practice to protect the mudguard during transportation with a towel or similar.

## 8.12 Removable Wheels. Patent pending.

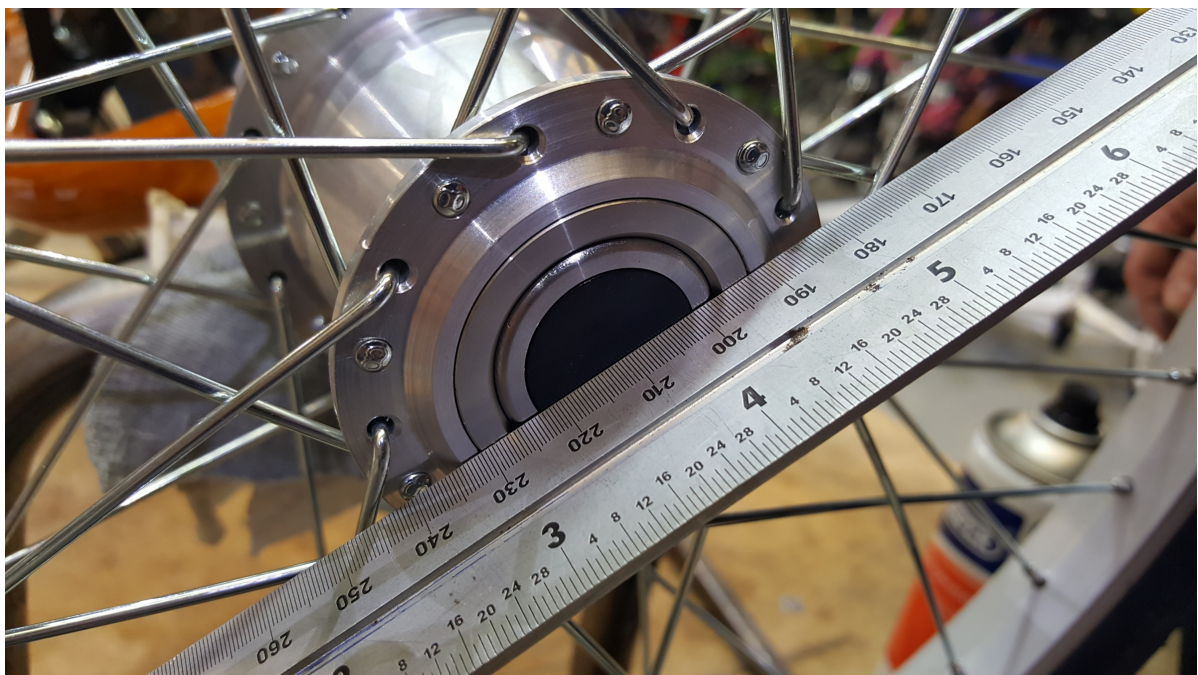
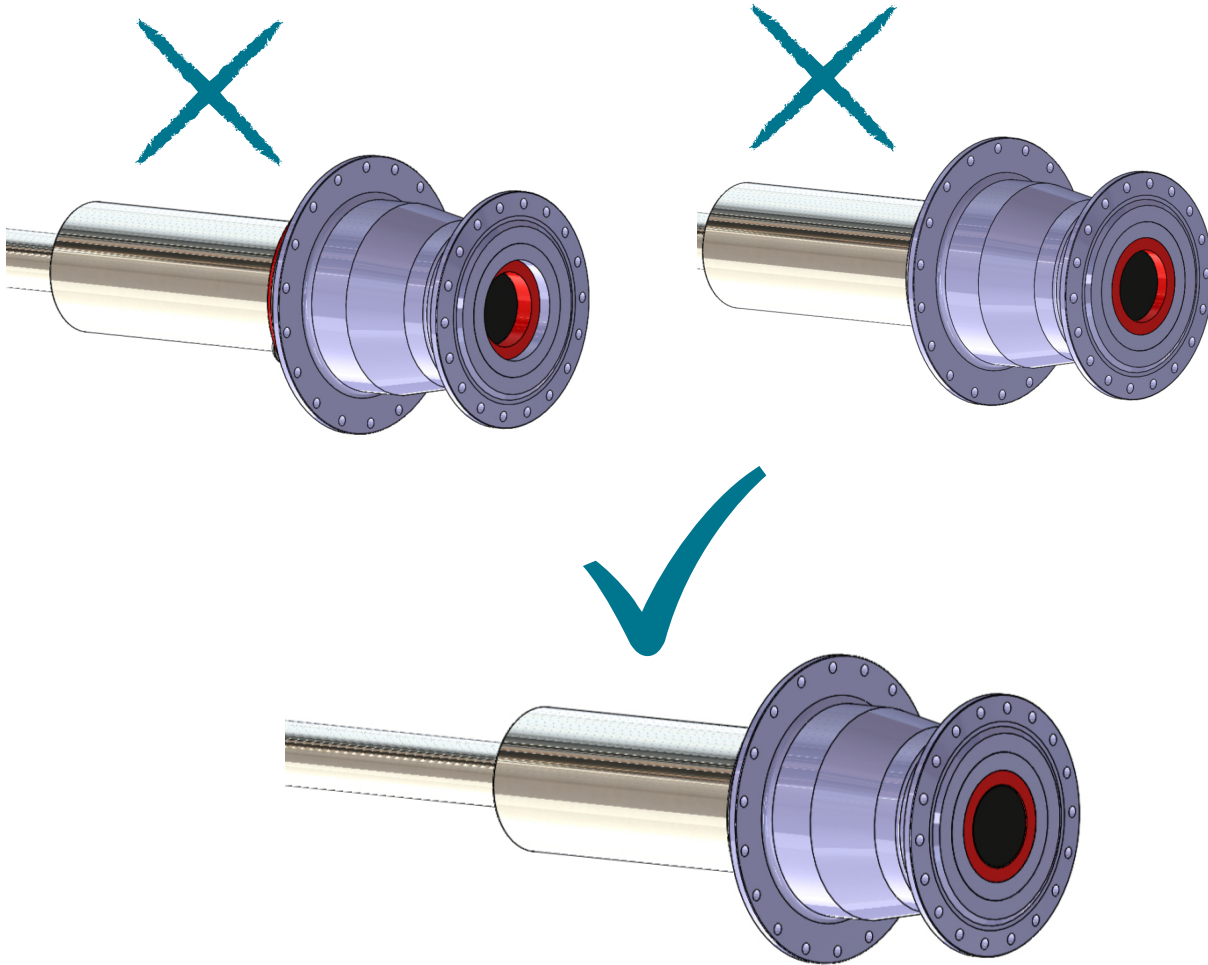
Tomcat Pit-Stop™ removable wheels significantly reduce storage and transportation space in the car, motor-home, garage or when shipping by domestic or international carrier. Each wheel comes with its own protection and transport bag and plastic sleeves are provided to protect the axles in transit.

**Pit-Stop wheels are high precision components** that must be kept clean to work correctly which when assembled, are sealed against the ingress of liquids and solids.

To prevent contamination when in transit, always use the bags and protective sleeves provided, and only disassemble in a clean environment. Do not allow the wheels or axles to come in contact with grit or grime. If this happens accidentally, wash and clean both immediately with soapy water and a clean rag. Test the action of the axle release mechanism before attempting assembly. If problems occur, follow the instructions in the maintenance section.

- To remove a wheel, support the frame with one hand whilst pressing the central release button with the other hand. The wheel can now be pulled from the axle. Lower the frame to its support leg.
- To refit a wheel, slide the wheel as far onto the axle as it will go. Press the release button with your thumb and continue pushing the wheel onto the axle whilst rotating the wheel slowly. Continue pushing and rotating until the wheel fully engages.
- When the wheel is fully fitted the faces of the wheel, axle and release button will all be flush with one another as per the inset photo. **If you only have two out of three, the wheel is not correctly assembled and you must not attempt to ride the vehicle.** If problems occur see the maintenance section.

[See Quick Release Wheel Fitting Video](#)





### 8.13 Removable Basket and Carrier. (Optional)

The Carrier is designed to quickly release from the vehicle for transport or when the basket is not needed. To remove the carrier, pull the carrier locking plunger whilst holding the carrier, then remove the carrier from the vehicle. Refitting is a reversal of that process. The Basket is designed to drop into the carrier and can be used in place of a supermarket basket within the store. The maximum cargo weight of the basket and carrier is 5kg.

### 8.14 8 speed Shimano Nexus geared hub.

The vehicle is fitted with a Shimano Nexus 8-speed hub. It is good practice with all hub drives not to change gear under load, whilst pedalling hard, or uphill. Always "coast" when changing gears. After a short bedding-in period, the gear settings may change slightly.

Check and adjust if necessary with reference to the Shimano online instructions Nexus 8 Speed Adjustment.

In accordance with Shimano recommendations, Check regularly that when 4th gear is selected, the two yellow lines coincide. Adjust if necessary with the adjuster on the gear changer as directed.

If slippage is detected in gear five, check and adjust the alignment immediately as this indicates poor hub adjustment. Continued use may cause serious damage.

### 8.15 Differential Drive.

The vehicle is fitted with a differential drive to both rear wheels in a similar manner to a motorcar. This ensures a smooth drive and even braking to both rear wheels whilst ensuring accurate, positive and responsive steering at all times and at all speeds. The Differential Drive requires no maintenance and is not user-serviceable.

### 8.16 Power Assist Motor, Battery and Charger.

There are no user-serviceable parts to the motor, battery or charger.

#### Battery care.

- Ensure the battery is fully charged before first use.
- After charging, the charging socket must be covered with the sealing plug to prevent water ingress and corrosion.
- Recharge the battery when the battery pack has been out of service for 12 weeks to avoid damage to the battery.
- To check battery charge level, press the button on the battery pack, next to the indicator. The remaining battery capacity will be displayed by four LED lights. A repeater battery condition display is also provided on the power control module.
- Turn the main switch OFF after use to avoid continued discharge of the battery pack.
- Recharge the battery after riding to recover operational readiness.
- Do not exceed the permitted user and cargo load of the vehicle.

## Display Controller

The display comprises a battery condition display, plus and minus power output buttons with power level indication and a "non-peddalling soft start" button.

- The battery display automatically lights when the battery main switch is turned on and indicates the remaining battery capacity with four LED diodes.
- Pressing the "plus" or "minus" buttons will raise or lower the delivered battery power in 6 stages indicated by three solid or flashing LED diodes, i.e. 1 flashing = power level 1, 1 solid = power level 2 and so on. With no power LED's lit, the power is off. Press the "plus" button to return to power level 1. Switch off at the main switch after use.
- Pressing the "A" button will engage start power without the need to turn the pedals. This starting aid is limited to 6kph and should not be used for prolonged periods. Always set the power level to 1 (one) when using the "A" Button.

## See Power-Assist Motor Video

## 9. General Product Care.

- Keep the product clean.
- Store in a dry, moisture-free environment. Do not leave exposed to the elements for prolonged periods of time.
- Do not re-route any mechanical control cables, particularly gear cables. This will alter gear-hub settings.
- Keep the battery charged in accordance with the above instructions.
- Do not pressure wash electrical wires or components.
- Keep the tyres inflated to the pressure stated on the tyre wall. Do not exceed this pressure.
- Lubricate all chains with light oil monthly and when laying up at season's end.
- Protect all metal parts with a light spray oil at season's end.
- Do not use the vehicle if any parts are loose or do not work properly. Investigate and remedy before re-use.
- Check all safety devices at the beginning of each journey. Do not use the vehicle if any are defective.

## 10. Routine Service.

### 10.1 Self Centralising Steering.

The self-centralising system is generally maintenance free, however, poor performance, offset alignment or noise from the mechanism should be investigated.

Remove the cover plates and inspect the components. Replace springs that are corroded and check all lock nuts for tightness. If the trike steers offline and all others are in good repair, tighten the spring compression nut on the side opposite the direction of steer. For example, tighten the left nut if the steering pulls to the right. Slackening an over-tightened nut will have the opposite effect.

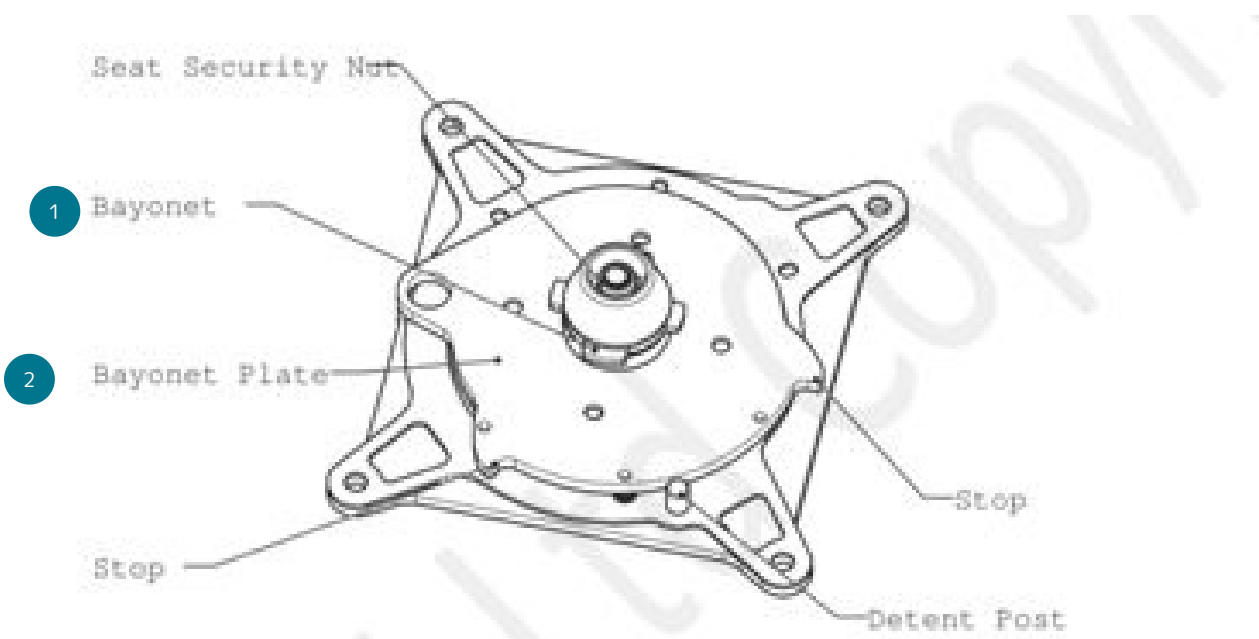
### 10.2 Removable Seat.

#### The Trolley mechanism.

Annually or when problems arise, inspect the bayonet latch between the seat and trolley. The Trolley latch should rotate freely and should interlock at both radial limits of its movement. Check that the spring-loaded knob that releases the interlock slides freely on its spindle and that there is no sign of damage to fixed keyhole plate.

#### The Seat Turret.

Turn the seat over and inspect the bayonet turret (1) at the centre of the support plate for wear, damage or loosen components. **Investigate if any turret components are loose and do not use.**



If all components are firm but seat wobble can still be detected in use, the wobble can be reduced by tightening the nut (2) in the centre of the turret one-tenth of a turn at a time. Slacken the nut by one-tenth at a time to loosen the fit.

If over-adjusted, the latch will immediately feel tight; it will not close properly and the interlock will not operate. If in doubt, compare how far the latch lever will move with the seat fitted and the seat removed. It must be identical.

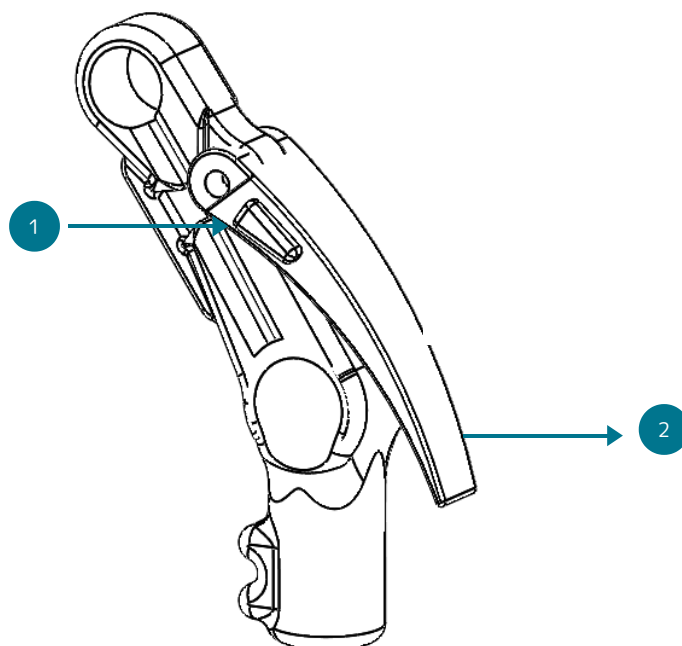
Readjust if necessary.

Lubricate the turret with Vaseline and protect from grit and grime. Never place the turret on soil, gravel, stone etc.

### 10.3 Folding Handlebar Column.

Should the column become loose in service, adjust the hinge by tightening the lever screw a tenth of a turn at a time. To tighten, open the hinge, move the lever sideways so the screw is central, then adjust the screw with a socket or combination spanner. Lubricate the hinge and screw mechanisms.

For Trikes with QR (Quick-Release) adjustable Stem's, the stem can be adjusted by operating the interlock (1) and opening the release lever (2) Clamp pressure can be adjusted with the clamp screw (not shown) beneath the Release Lever.





#### 10.4 Transportable Frame.

Monthly when in use and at layup, lubricate all working components of the two-piece frame mechanism with light spray oil.

#### 10.5 Chains.

Monthly when in use and at layup, lubricate all chains with cycle chain oil.

##### Chain Drive Adjustment.

The chain drive comprises a chain-ring, cranks and pedals, mounted on a maintenance-free bottom bracket cassette. the chain-ring is connected to the Shimano Nexus Inter 8 Hub by 3/32 chain as the components bed in, the chain may become slack and need its tension adjusted.

## 10.6 Removable Wheels.

### Service Instructions.

Service annually or when problems occur. Wheels protected from grit and grime require little or no maintenance.



#### After removing the wheels

- Use a 2mm Allen key to unscrew the grub screw 4 turns (slightly depress the release button).
- Slowly release the button to eject it from the axle bore. Remove the spring and lock balls.



- If the button won't eject, further unscrew the grub screw until it does. Clean the lock balls (6) and replace any showing signs of corrosion.



- Clean all surfaces of the button and axle including the button bore, then renew the button "O" ring. Lubricate all parts and surfaces with petroleum jelly.

- Refit the spring and button and apply a small amount of thread locker to the grub screw thread. (If servicing with a kit, replace the grub screw without applying thread-locker as kit grub screws have pre-applied thread-locker). Now screw in the grub screw the exact number of turns it was unscrewed and clean away any excess thread-locker.

- Thoroughly clean the bore of the hub and with an old toothbrush, clean the hub drive face and drive pins. Inspect the internal surfaces of the hub bore for mechanical damage and replace both "O" rings.



- Attempt to refit the hub to the axle. It must slide on smoothly all the way until the outer hub face is flush with the axle face. If it jams partway DO NOT FORCE! Remove the wheel and screw in the grub screw a further turn and try again.

- Lubricate all hub and axle surfaces with petroleum jelly, particularly the ball drillings.

- Replace the balls in the drillings and operate the button several times, ensuring that all balls extend and retract freely.

- Fit the wheel and check the operation of the release button. When the wheel is Assembled properly, the wheel should slide on smoothly and all faces of the hub, axle and release button will be flush with one another

## Warranty

Thank you for purchasing this Tomcat SNI Ltd product.

This limited warranty applies to the physical goods, and only the physical goods, purchased from Tomcat SNI Ltd or through one of its authorised dealers.

### 1. What does this limited warranty cover?

- This Limited Warranty covers any defects in materials or workmanship under normal use during the warranty period.
- During the warranty period, Tomcat SNI Ltd will repair and replace, at no charge, products, or parts of products that prove defective because of improper material or workmanship under normal use and maintenance.

### 2. What we will do to correct the problems?

- Tomcat will either repair or replace the Product at no charge, using new or refurbished replacement parts.
- At our discretion, we may decide to refund the price of the product, which must be returned in full in its original packaging or in packaging authorised by us.

### How long does the coverage last?

- The warranty period for physical goods purchased from Tomcat SNI Ltd or from Tomcat SNI Ltd through its authorised dealer, is two years from the date of purchase and five years for the product frame, excluding any attachments.
- A replacement Physical Good or part assumes the remaining warranty of the original Physical Good or part from the date of purchase.

### 3. What does this warranty not cover?

- This Limited warranty does not cover any problems that are caused by:
- Conditions, malfunctions or damage not resulting from defects in materials or workmanship, for example:
- Damage of a Product or part resulting from negligence or misuse.
- Damage of a product resulting from unauthorised modification of the product.
- Damage caused by natural disaster.
- The cost of returning the Goods under this warranty
- Theft or loss of the product.

### 4. What do you have to do?

- To obtain warranty service, you must first contact us, (or in the case of purchase through one of our authorised dealers, your dealer) to determine the problem and the most appropriate solution for you.
- If the return of the product is agreed, it must be returned in its original packaging.
- You will need an RMA (Return Merchants Authorisation) from Tomcat SNI Ltd or your dealer.
- All documents and accessories shipped with the product must be returned if required by Tomcat SNI Ltd or its dealer.