

compass

20

Fluid Head

OPERATOR'S  
MANUAL

#1036 Compass 20 Fluid Head



# Features and Controls

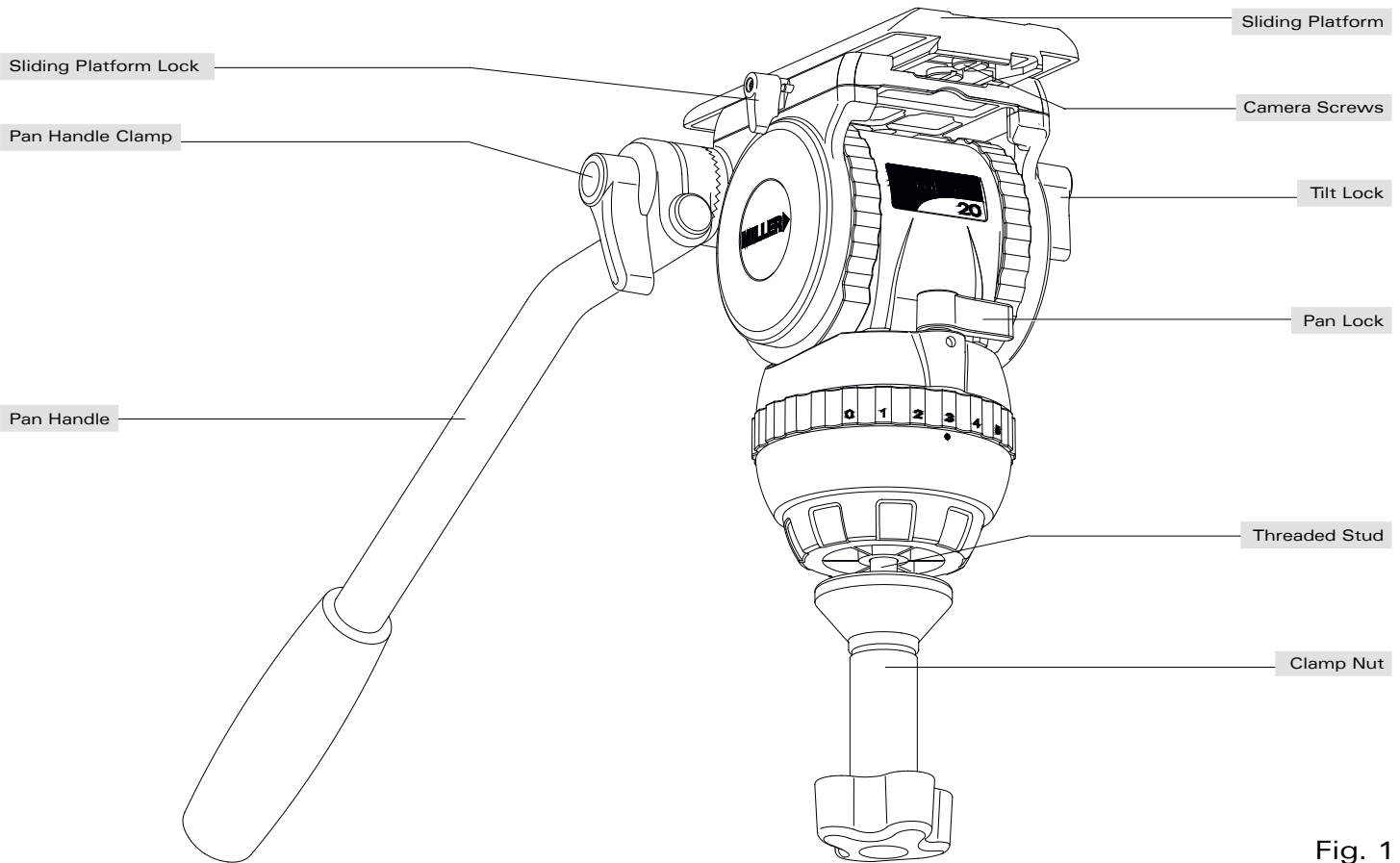


Fig. 1

# Features and Controls

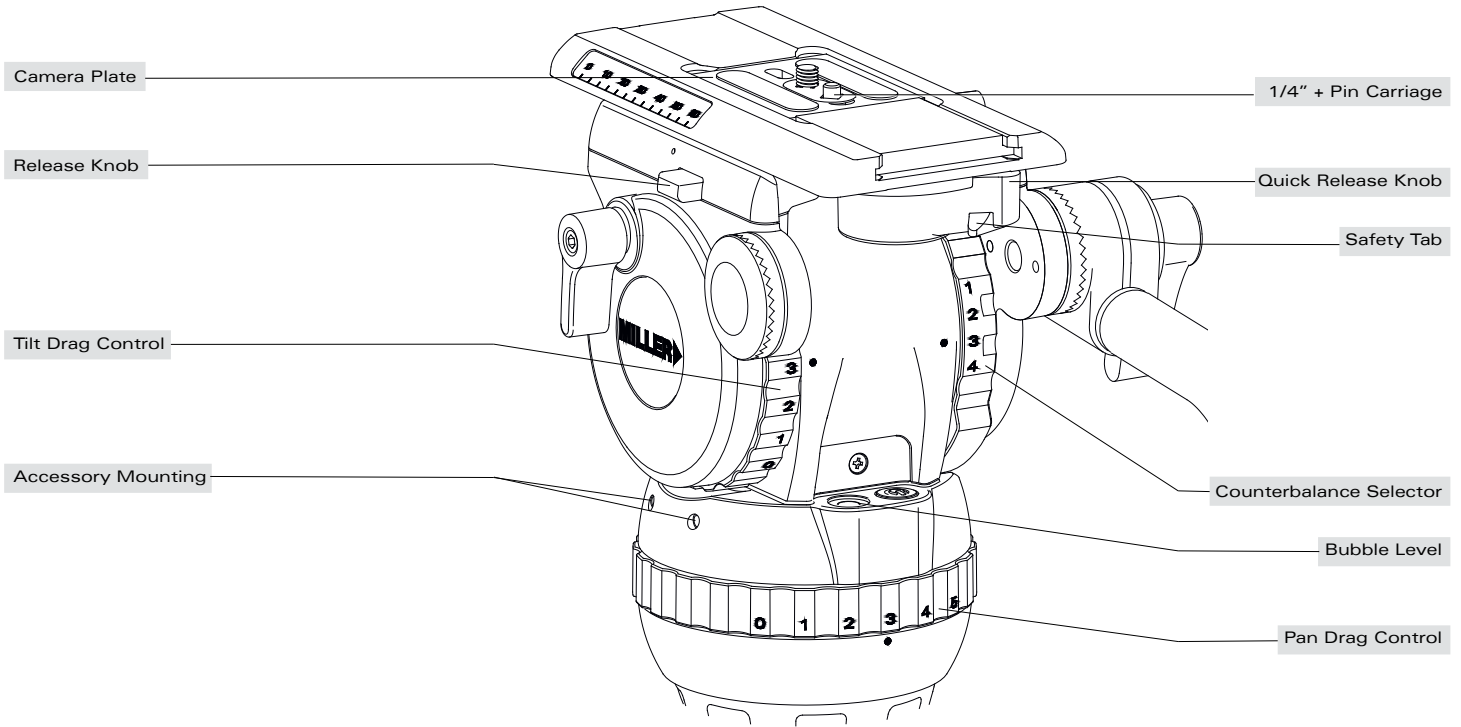


Fig. 2

# Introduction

Thank you for purchasing the Compass 20 Fluid Head. The Compass 20 Fluid Head has been designed to suit payload capacities from HDV to standard configuration XDCAM and P2HD cameras.

The robust design and construction of the Compass 20 Fluid Head offers maximum stability, accuracy and durability and includes precision ball bearing mounted Fluid Drag Plate system in the Pan and Tilt assembly to deliver true fluid drag performance over the entire temperature and payload range.

The Fluid Drag and the Counterbalance system were designed to provide excellent control and repeatability and offer progressive equal increments of drag and torque.

The Compass 20 Fluid Head also offers Illuminated Bubble level.

The Compass 20 Fluid Head will give best performance when used on a wide range of Miller tripods, including SOLO DV (#1501 & 1630) and Lightweight (#440 & 420) tripod. This will ensure maximum system stability to suit any professional set-up. The Compass 20 Fluid Head will suit most industry standard 75 mm tripods as well, please refer to manufactures' manual for mounting details.

# Safety Instructions

## Attaching/removing the camera.

Please use this manual to familiarise yourself with the operation of the Compass 20 Fluid Head and observe these instructions to prevent any damage to your equipment. Ensure that all equipment is operating correctly and free from defects and damage, also please ensure that the tripod is steady, secure and that the bowl is approximately horizontal when attaching the camera. The operator is responsible for the safe operation of this piece of equipment.

- Do not exceed the maximum payload capacity of the Fluid Head.
- Do not leave the camera unattended on the Fluid Head.
- Do not release the SLIDING PLATFORM LOCK whilst the camera is at an angle.
- Do not adjust the tripod whilst the camera is attached to the Fluid Head.
- Ensure PAN HANDLE CLAMP and CLAMP NUT is securely tightened.
- Apply TILT LOCK when adding/removing equipment from the camera or when attaching/removing the camera from the Fluid Head.
- Hold camera securely whilst changing Counterbalance, Pan Drag or Tilt Drag settings.
- Hold the camera securely whilst releasing the RELEASE KNOB.
- Hold camera securely whilst adjusting the CLAMP NUT to level the Fluid Head.

# Technical Data

Weight	2.7 kg (6.0 lb)
Payload Range	2.0 – 12.0 kg (4.4 - 26.5 lb)
Max. Capacity	20.0 kg (44.0 lb)
Tilt Drag	5 Selectable fluid drag positions + 0
Tilt Range	+ 90° / -75°
Tilt Lock	Positive Lock caliper brake system
Pan Drag	5 Selectable fluid drag positions + 0
Pan Range	360°
Pan Lock	Positive Lock caliper brake system
Counterbalance System	4 Selectable positions (see performance graph)
Camera Platform Type	Quick release sliding platform with 60 mm travel.
Camera Plate	Quick release mini euro camera plate and 1/4", 3/8" and 1/4" + Pin Carriage
Mounting Base	Ø75 mm Ball Levelling
Ball Level Range	10°
Handle	Standard black anodised pan handle with adjustable angle.
Temperature range	-40° to +65° C (-40° to +149° F)
Construction	Lightweight diecast Aluminium alloy, moulded reinforced plastics
Sealing	Water & Dust resistant
Finish	Matt black (low sheen) durable powder coated with anti-corrosive pre treatment
Warranty	3 Years.

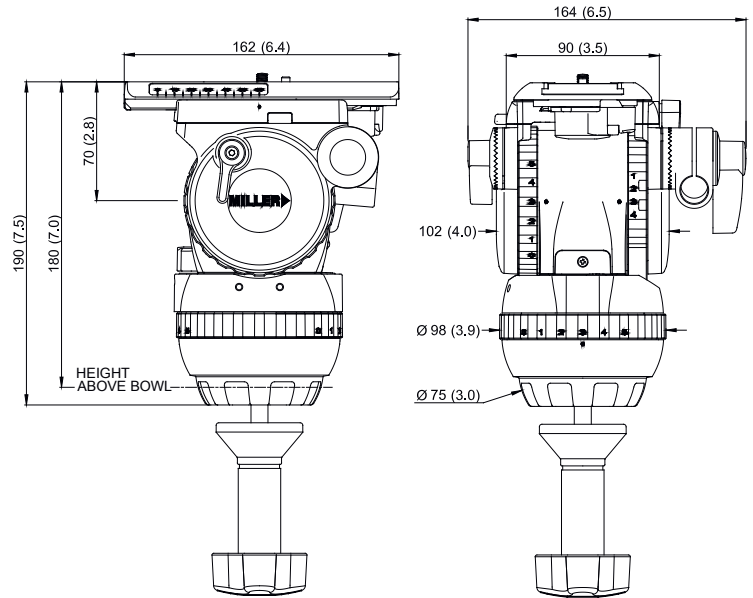


Fig. 3

# Operating Instructions

The operating instructions are described in six steps. Please read and understand these instructions before using this equipment. Do not omit any steps.

## 1 Fluid Head Set-up

- 1.1 Loosen the PAN HANDLE CLAMP fully then rotate the PAN HANDLE until it is approximately perpendicular to the THREADED STUD (fig. 4) and tighten the PAN HANDLE CLAMP - avoid contact wear between the serrations on the Fluid Head and the PAN HANDLE CLAMP, if this occurs then unwind the PAN HANDLE CLAMP further.
- 1.2 Ensure that the TRIPOD BOWL is approximately horizontal. Place the Fluid Head into the TRIPOD BOWL, adjust the BUBBLE LEVEL (fig. 4) such that the bubble is inside the black circle and tighten the CLAMP NUT.
- 1.3 Set the initial control settings as follows – see Figure 1 & 2:
  - Select Counterbalance to position 4 (top setting).
  - Select Pan & Tilt Drag to position 0.
  - Tighten the PAN LOCK, TILT LOCK and the SLIDING PLATFORM LOCK.

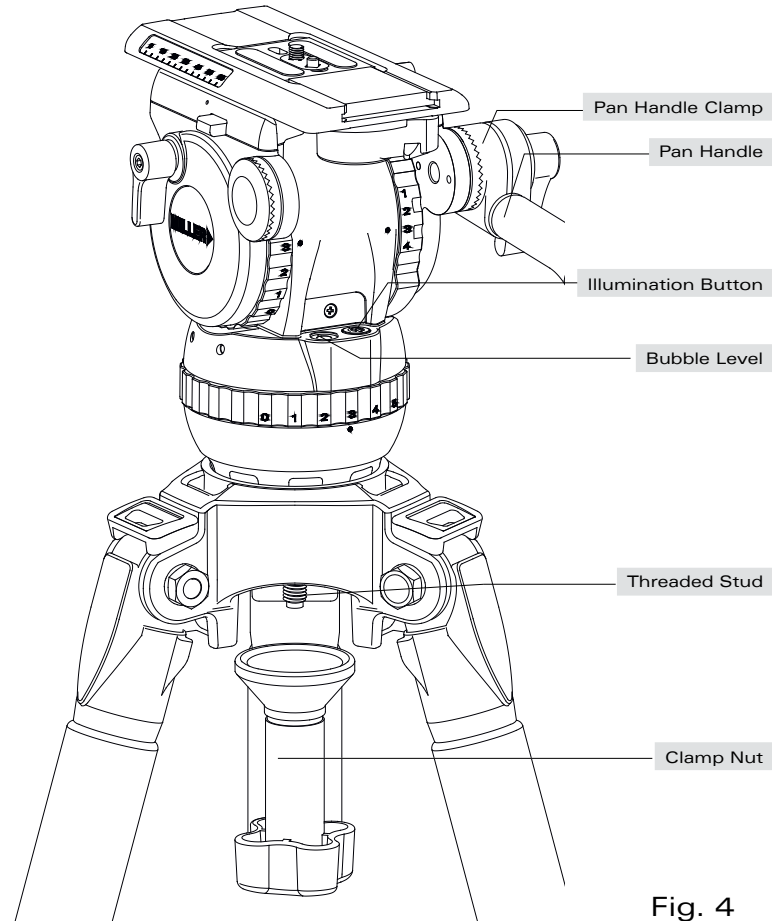


Fig. 4

# Operating Instructions

## 2. Camera Set-up

- 2.1 Remove the CAMERA PLATE by pulling down the SAFETY TAB while rotating the QUICK RELEASE KNOB to the left. The CAMERA PLATE should pop out.
- 2.2 Refer to the Camera's owners manual for correct method of attachment to the CAMERA PLATE. Inspect the CAMERA PLATE and remove the 1/4" and 3/8" screws (for HDV mount) or the 1/4" + PIN CARRIAGE (XDCAM/P2HD mount) as required. The 1/4" and 3/8" screws can be stored underneath the SLIDING PLATFORM (fig. 1).
- 2.3 Attach camera accessories and the battery to the camera, it is recommended to estimate the camera's Centre of Gravity (C of G) for the purpose of correctly positioning the camera on the CAMERA PLATE. The camera's C of G can be estimated by placing the camera on to a round rod and then shifting it backwards or forwards until a balance point - C of G - is achieved. It is recommended to identify this point on the camera as it will be useful in step 2.5.
- 2.4 Attach the CAMERA PLATE to the camera or the QUICK RELEASE TRIPOD ADAPTOR and securely tighten the screws.
- 2.5 Align the CAMERA PLATE with the SLIDING PLATFORM and slide it in until the safety mechanism is engaged.
- 2.6 Release the SLIDING PLATFORM LOCK and slide the SLIDING PLATFORM such that the camera's C of G is directly above the centre axis of the Fluid Head and tighten the SLIDING PLATFORM LOCK (fig.5). If this can not be achieved then reposition the CAMERA PLATE on the Camera or the QUICK RELEASE TRIPOD ADAPTOR - step 2.4. This will ensure that the system has maximum stability.

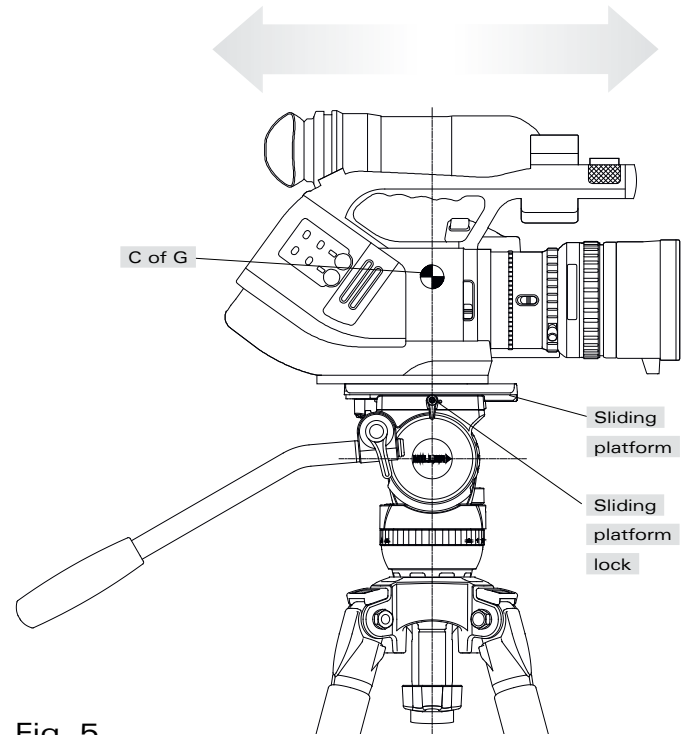


Fig. 5

# Operating Instructions

## 3. Counterbalance Control

The counterbalance system was designed to neutralise the effect of the camera weight when it is tilted. The Compass 20 Fluid Head offers a 4 position counterbalance system which can be operated via the COUNTERBALANCE SELECTOR (fig. 2). The COUNTERBALANCE SELECTOR must be operated when the SLIDING PLATFORM is in a horizontal position. After changing the Counterbalance setting it may be necessary to tilt the camera back and forth to ensure that the CB spring has engaged. The camera must be held securely while changing the Counterbalance setting.

- 3.1 For safety ensure that Counterbalance position 4 is selected.
  - 3.2 Hold the camera and release the TILT LOCK, then gently tilt the camera from a horizontal position forward then backward and observe its response. If the Camera 'Springs Back' to the horizontal position then a lower Counterbalance setting is required, select Counterbalance position 3 and recheck, select lower setting again if necessary. Correct counterbalance setting has been achieved when minimum effort is required to move the camera over the entire tilt range.
- TIP Fine tuning can be achieved by adjusting the SLIDING PLATFORM – see step 2.6.

## Counterbalance Performance

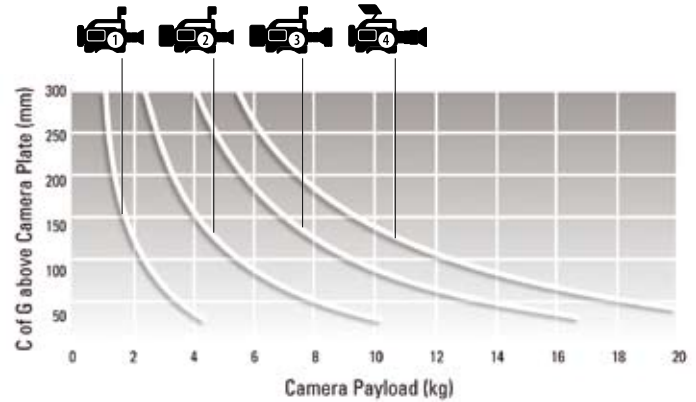


Fig. 6



# Operating Instructions

## 4. Pan / Tilt Drag Control.

The Compass 20 Fluid Head offers 5 selectable positions of fluid drag + zero setting in the Pan and Tilt. The settings are equally stepped from light drag in position 1 up to heavy drag in position 5, the drag plates are completely disengaged in position zero.

- Do not Pan or Tilt the Fluid Head whilst adjusting PAN or TILT DRAG CONTROL or whilst the PAN & TILT DRAG CONTROL is between settings.
- The drag setting can be changed at any tilt or pan angle.

## 5. Pan/Tilt Lock Control.

The Compass 20 Fluid Head offers high capacity caliper disc brake system to hold the Fluid Head in a fixed pan and/or tilt position. Camera position will not change when applying or releasing the Pan / Tilt locks.

- Do not pan or tilt the Fluid Head whilst the PAN or the TILT LOCK is partially applied.

## 6. Illumination.

The Compass 20 Fluid Head offers illumination of the BUBBLE LEVEL when the low ambient light conditions exist. Illumination can be achieved by pressing the ILLUMINATION BUTTON once. The light will switch off after 10 seconds.

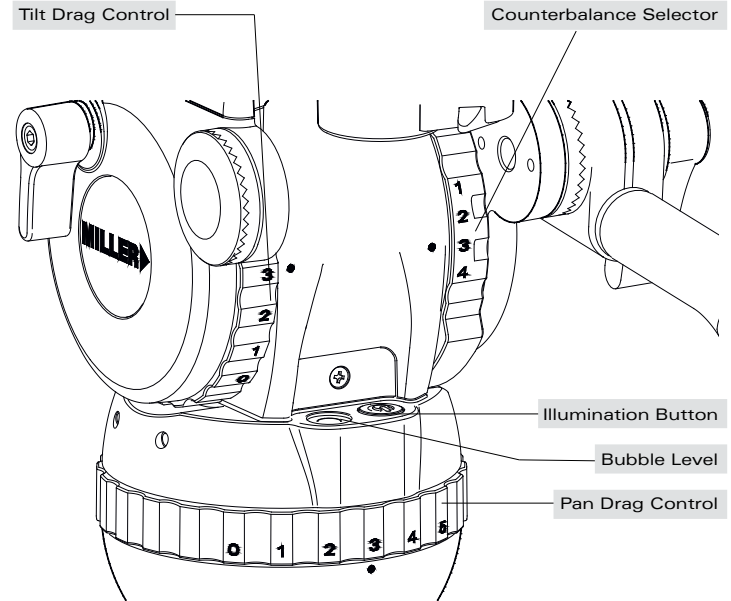


Fig. 7

# Maintenance

The Compass 20 Fluid Head offers high quality surface coatings. Miller recommends keeping the Fluid Head clean at all times by using soft brushes and lint free cloth to wipe over the surfaces.

- Do not immerse the Fluid Head in any liquid.
- Do not use stiff brushes, abrasives, harsh detergents and solvents.

## Battery Replacement

The Compass 20 Fluid Head uses a single 11A type - 6 Volt battery for Illumination. Miller recommends the following batteries to provide long life performance – GP11A, Duracell MN11 or Vinnic L1016.

- 1 Using a Phillips Head #1 screw driver, remove the **RETAINING SCREW** and the **BATTERY DOOR**.
- 2 Using a small flat screw driver remove the battery.
- 3 Align the new battery as shown on the back of the **BATTERY DOOR** and place into the **BATTERY HOUSING**, then push down the battery into place. A small flat screw driver may be used to push down the battery into the **BATTERY HOUSING**.
- 4 Align the **BATTERY DOOR** into the body then tighten the screw lightly.

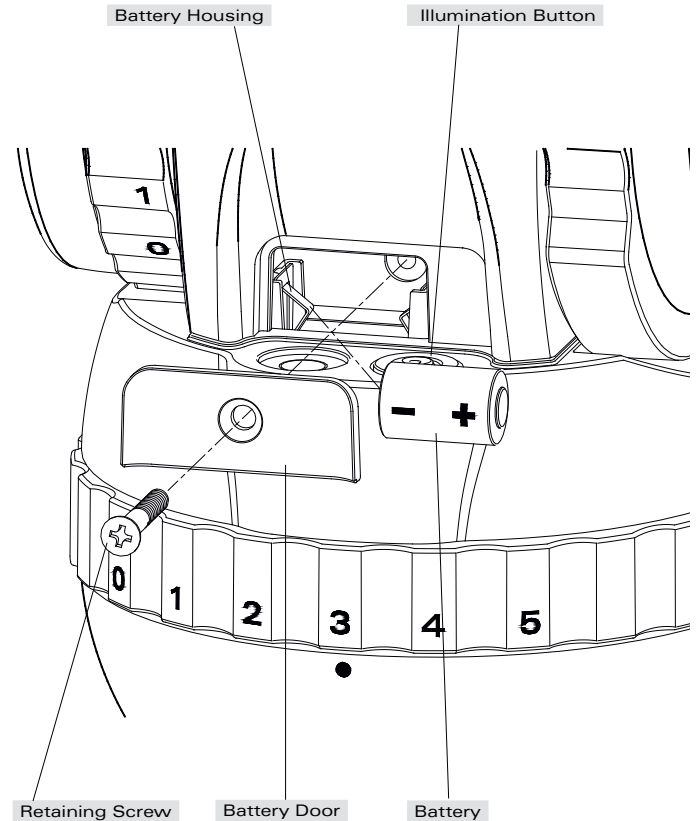


Fig. 8

## Storage

The Compass 20 Fluid Head can be stored for extended periods; Miller recommends storage in a Miller Soft Case and the following:

- Remove battery.
- Clean the external surfaces.
- Keep in a dry place away from direct sunlight.
- Loosen off PAN & TILT LOCK.

## Spare Parts and Accessories

ITEM	ITEM NO.
Battery	P7715
Camera plate Assembly (Including 1/4" + Pin Carriage)	# 1208
Camera screw 3/8"	P0037
Camera screw 1/4"	P0036
1/4" + pin carriage	# 493
Standard Pan Handle assembly (incl. Handle Clamp)	# 680
Standard Pan Handle	# 689
Soft Case	# 876
Clamp nut	P7850

## Warranty

Please refer to warranty card for complete details.

## Service, Sales and Support

Miller Authorised Service Agents must carry out all service and repair work. Failure to observe this requirement may void warranty. It is advisable to notify Miller or a Miller Authorised Service Agent if a change of performance is observed as a result of dropping or rough usage. For information regarding sales and service of Miller products or for your nearest Miller representative please contact us via our website or at the following:

MILLER CAMERA SUPPORT EQUIPMENT  
30 Hotham Parade, Artarmon, Sydney, NSW 2064 Australia  
Tel: +61 2 9439 6377 Fax: +61 2 9438 2819  
Email: sales@miller.com.au

MILLER CAMERA SUPPORT (LLC) USA  
218 Little Falls Road, Cedar Grove, New Jersey 07009-1231 USA  
Tel: (973) 857 8300 Fax: (973) 857 8188  
Email: sales@millertripods.us

MILLER FLUID HEADS (EUROPE) LTD.  
Unit A2, Ford Lane Industrial Estate  
Ford Lane, Ford, West Sussex BN18 0DF, United Kingdom  
Tel: +44 (0)1243 555255 Fax: +44 (0)1243 555 001  
Email: sales@millertripods-europe.com

Website - [www.millertripods.com](http://www.millertripods.com)

**MILLER** 

[www.millertripods.com](http://www.millertripods.com)

MILLER CAMERA SUPPORT EQUIPMENT

30 Hotham Parade

Artarmon, Sydney

NSW 2064 Australia

Tel: +61 2 9439 6377

Fax: +61 2 9438 2819

Email: [sales@miller.com.au](mailto:sales@miller.com.au)