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USER MANUAL – T812 Pan & Tilt Camera



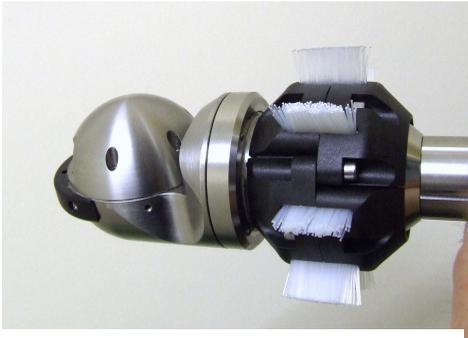
QUICK START GUIDE



1) Fit Skid Set to the T812 Camera body



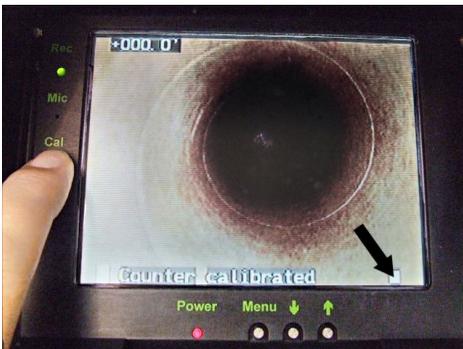
2) Fit the rear Skid Set



3) Fit the T812 camera to the T804 termination



4) Switch the T804 ON



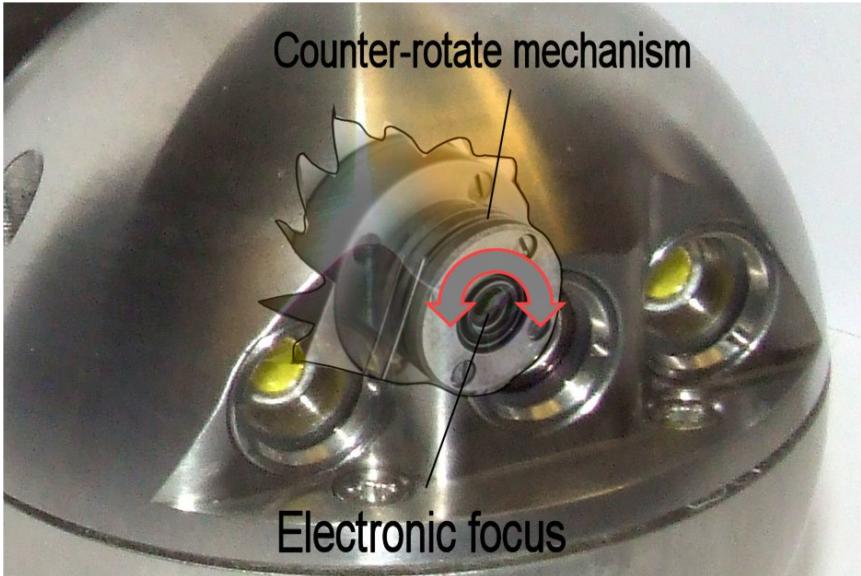
5) Wait until the 'ready' symbol (white square) is shown on the screen



6) Use the controls ringed above to control the camera



T812 FEATURES



T812 Pan and Tilt Camera Features

The T812 camera features a unique system-feature named '**Human Perspective View**' (HPV). Rather than a simple auto-uprighting system as found in other cameras, the Troglotech T812 camera uses a series of sensors and motors to view a scene in the same way a human would. This makes interpreting the viewed scene simpler and ensures that the viewer can pinpoint problems with the assurance that the orientation is known.

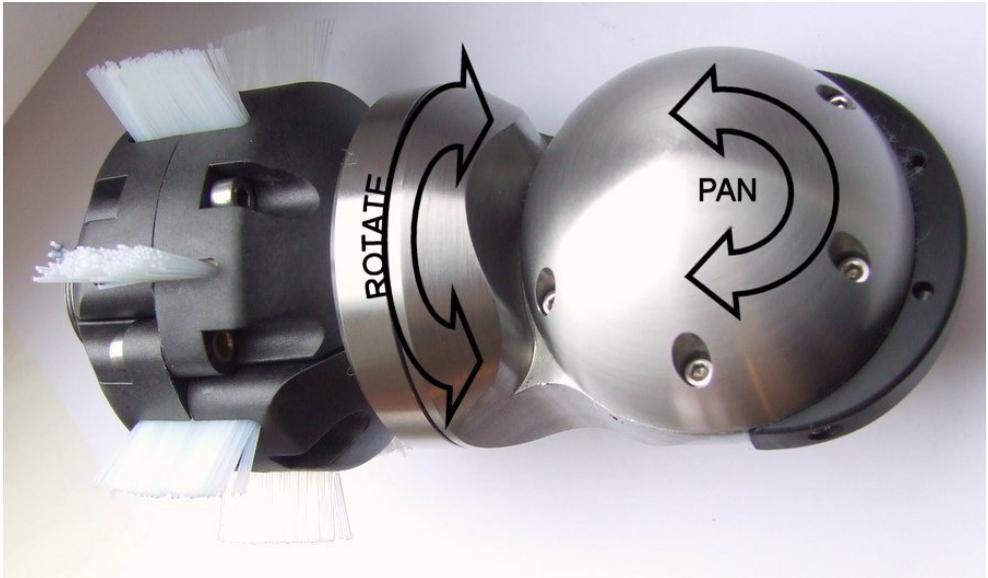
To allow the camera to assume the straight-ahead position and have the picture in focus quickly, **a single key-press centralises the camera and sets the focus to 6"-infinity**. The focus control is entirely electronic allowing pre-set-focus to be realised. After scanning and adjusting the focus to view close-up objects, the single key-press will quickly allow the operator to resume the survey.

Borehole Mode allows the T812 to be operated when vertical - in this situation the Human Perspective View is not required - a single key-press switches off HPV and allows the picture to be rotated using the ZOOM keys - this makes inspection of Boreholes more intuitive.

Digital Lens Measurements are covered in a separate manual



OPERATION GUIDE



Standard Operation

When the T812 is fitted to the Troglotech T804 push-rod system and the system switched ON, the **T812 camera will perform a short calibration routine**. During the calibration routine the Tilt mechanism will turn and the picture will rotate on the T804 screen as the internal picture sensor rotates. After a few seconds the main rotate mechanism will adjust the camera to an upright position, the pan mechanism will face forward and the picture will auto-upright. The camera is now ready for use.

When operating the camera using the T804 keyboard, the camera can be set to view straight-ahead and the Focus pre-set to 6" - infinity by pressing the 'Centre' button on the keyboard as shown to the right here.

Always use this button after operating the camera pan, tilt and focus controls.



OPERATION GUIDE

Standard Operation Continued

Inspecting damaged joints in pipe-work:

With the camera view set to straight-ahead position (by pressing the Centre button if required), push the camera so that the damaged joint is at the edge of the picture, then use either of the TILT controls to move the head so that the damaged joint is in the centre of the picture. Adjust the Focus controls if needed to achieve a sharp picture

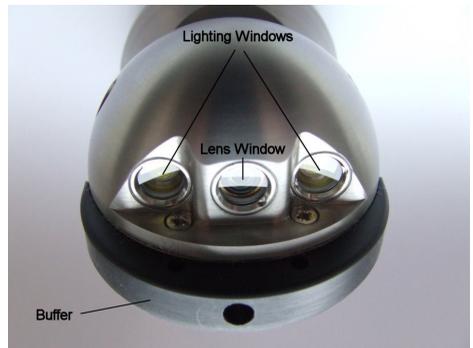
Now use either of the ROT (rotate) controls to inspect the joint through 360 degrees. During this operation, the camera picture will remain upright as the damaged joint is scanned. After scanning, press the 'centre' button to set the focus to 6" - infinity and the camera pointing straight ahead.

Borehole mode Pressing the button shown to the right puts the T812 camera into Borehole mode. This switches OFF the Human Perspective View and allows the operator to rotate the video picture using the ZOOM keys. Press CENTRE to enable Human Perspective View

Maintaining your T812 camera

After completing a survey, return the camera to the T804 coiler and check the LED and lens windows for debris—remove any debris with a soft cloth. Adjust the pan position so that the windows face the camera body. This will protect the windows during transit to the next survey.

Do not use any solvents to clean T812 camera as they may damage the camera seals and remove lubricating greases.



OPERATION GUIDE

Your T812 camera is supplied with a C-Spanner which is used to separate the camera into the Camera Head and Rod Adaptor. When used on the T804 Pushrod system, the camera is always used as a single unit. When fitted on the Troglotech Tractor System (not yet released), only the Camera Head is required.

If, in normal use, the two assemblies become loose, they can be mated again using the spanner as shown here.



The T812 is fitted with a impact-absorbing buffer to protect the camera. This is designed to be sacrificial and will wear down over time.

To ensure that the camera has continued protection, when the buffer has been worn it must be replaced as shown to the right.

There are three recessed Pozi-Drive screws, remove all three screws to remove the buffer.

Clean the front of the camera with a damp cloth before replacing with a new buffer.

The buffers are available from your distributor.



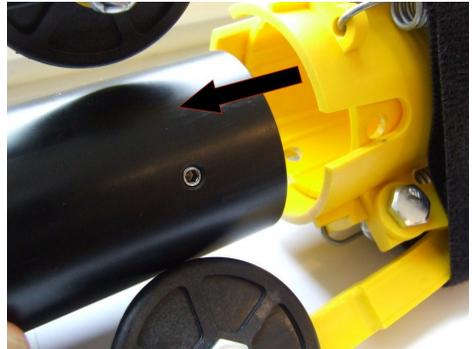
FITTING THE WHEELED ADJUSTABLE SKID

To Fit the Adjustable Wheeled Skid:

Remove the three rear Allen bolts that secure the internal adaptor sleeve



Slide the internal adaptor sleeve from the skid.



Ensure that the T804 camera termination is free of water or debris, clean if required. It is imperative that the slipping area is clean and free from moisture.

Slide the internal adaptor sleeve over the T804 camera termination



Ensure the rear pogo area of the camera is free from moisture and debris. Clean if required.

Screw camera onto T804 camera termination, ensure that the collar is flush with the camera.



FITTING THE WHEELED ADJUSTABLE SKID

Slide the internal adaptor sleeve over the T804 termination until it is flush with the back of the T812 camera.

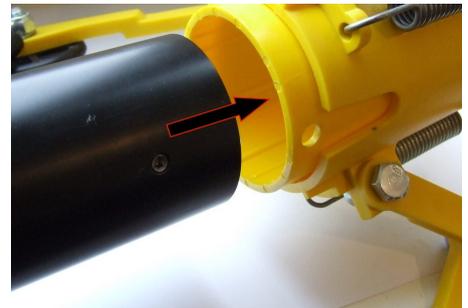
Tighten 3 x Allen screws onto T804 termination collar. Do not over-tighten



Unscrew camera from T804 termination and internal adaptor tube.



Slide the T804 camera termination and the internal adaptor tube into the skid.

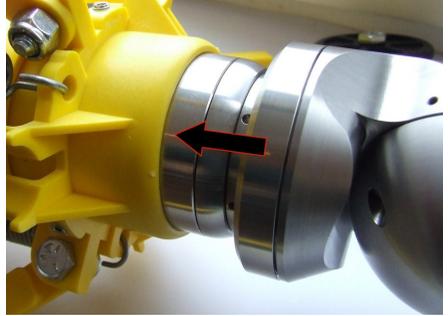


Fit 3 x Allen bolts to secure internal adaptor sleeve.



FITTING THE WHEELED ADJUSTABLE SKID

Slide camera into skid



Tighten camera onto the T804 camera termination

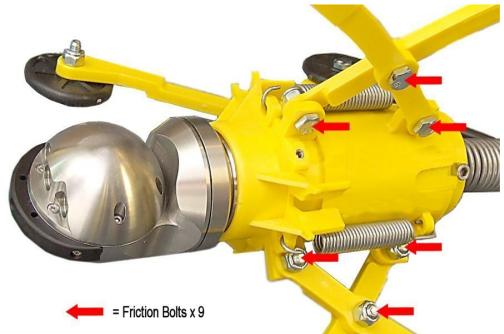


Lightly tighten 3 x Allen screws onto the camera body. Do not over-tighten these screws as this may distort the camera body



Set the skid to the correct diameter for the pipe being surveyed and then lightly tighten the friction bolts to hold the skid in position. For pipes between 150mm-200mm, use the small wheel set.

The system is now ready for surveying.



FITTING BRUSH SKID SET

Fitting Brush Skids

The T812 must always be used with the full skid set, whether or not the brushes are fitted. Using the T812 without skids may damage the camera.

The Troglotech skids can be adjusted from 3" (no brushes fitted), through 4" to 6" by selecting from the two brush sizes.



TECHNICAL SPECIFICATIONS

Mechanical

- Full Diameter Length 81mm
- Overall Length 97mm (149mm with rod adaptor)
- Diameter 60mm
- Material 300 series stainless steel
- Connector Various
- Weight TBA
- Rotate travel 360° Continuous
- Pan/Tilt travel 360° Continuous (285° useable)

Electrical

- Voltage 14.8v (head only) 24v(with rod adaptor)
- Consumption 13 watts
- Output Composite video
- Lighting 10 watts high power LED

Sensor

- Sensor “Digital Clarity” CMOS ¼”
- Pixels 640 x 480
- Sensitivity Better than 1 lux
- Horizontal Resolution 350 TVL lines per picture height

Lens

- Focal Length 5.1mm
- Angle of view 57° diagonal
- Iris Control Fixed iris, auto electronic shutter
- Focus range 20mm to ∞

Temperature

-20°C to +85°C (Storage)
0°C to +50°C (Operating)

Bump

(Environmental Testing Bump)

EN 60068-2-29

Sealing

IP68 11 Bar (160psi)

EMC

EN61000-6-4:2001 (Emissions)
EN61000-6-2:1999 (Immunity)



TECHNICAL SPECIFICATION

