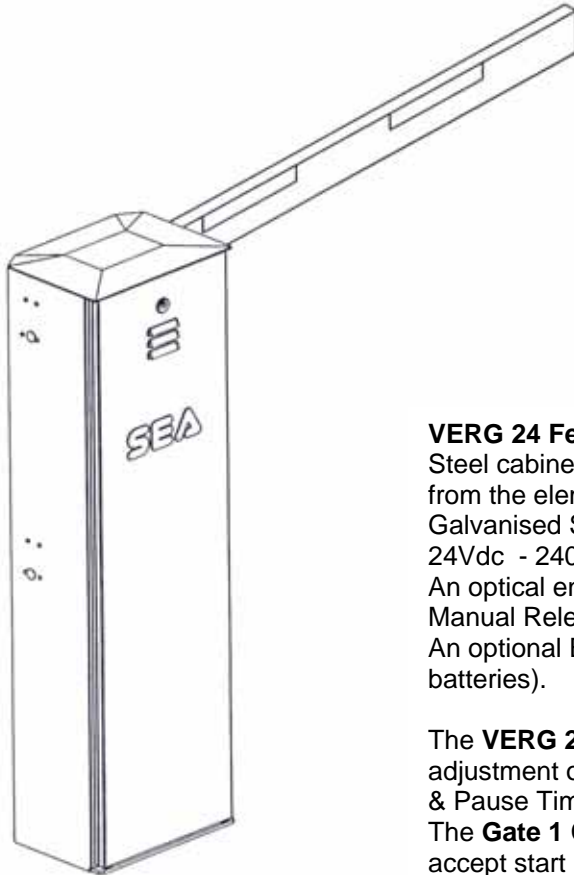




VERG 24V BARRIER

INSTALLATION MANUAL



Thank you for choosing SEA for your automation needs. All SEA products are the result of careful market research, design and rigorous testing. This procedure ensures an enduring system that is practical to install.

General Description

The **VERG 24V** is an electro-mechanical traffic barrier that is designed for high-use applications requiring a fast operating barrier. Beam Lengths of: 2 – 3 – 4 and 5 metres can be used.

The optical motor encoder coupled to the adjustable motor torque control device provides a reliable system for limiting the beams force (15kg max.).

The Battery Back-up System (optional) will allow a minimum of 15 operations if the power fails. A mechanical release system allows manual operation in case of an emergency.

VERG 24 Features

Steel cabinet is cathaphoresis treated and polyester painted to provide protection from the elements with key lockable door.

Galvanised Steel Foundation Plate (optional)

24Vdc - 2400 rpm Motor coupled to a Reduction Gearbox.

An optical encoder fitted to the motor

Manual Release device & Key

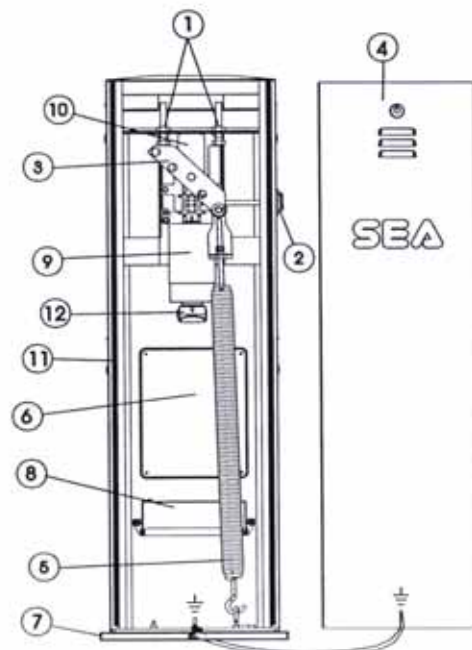
An optional Emergency Battery Back-up system (2x 12Ah Lead Acid re-chargeable batteries).

The **VERG 24** is supplied with a **GATE 1 24V** electronic control unit which allows adjustment of: The Motor Run & Slowdown Speeds - Motor Torque/Beam Force & Pause Time.

The **Gate 1** Controller has a built-in 800 user plug-in Radio Receiver and will accept start inputs from Key Switches, Push Buttons, Proximity Readers etc. The normal range of SEA Photocells and Induction Loop Detectors can be installed to provide Hold-open safety.

LEGEND

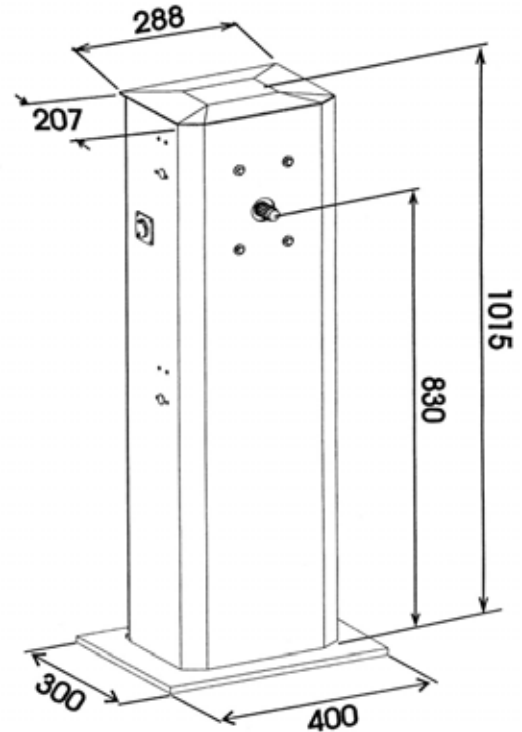
1. Adjustable mechanical travel stops
2. Key operated manual release system
3. Galvanised steel spring balance arm
4. Cabinet Door
5. Balance Spring
6. Control Unit
7. Foundation Plate (optional)
8. 2 x 12v 2Ah Batteries (optional)
9. 24Vdc Motor
10. Gearbox
11. Steel Cabinet
12. Optical motor encoder



Technical features

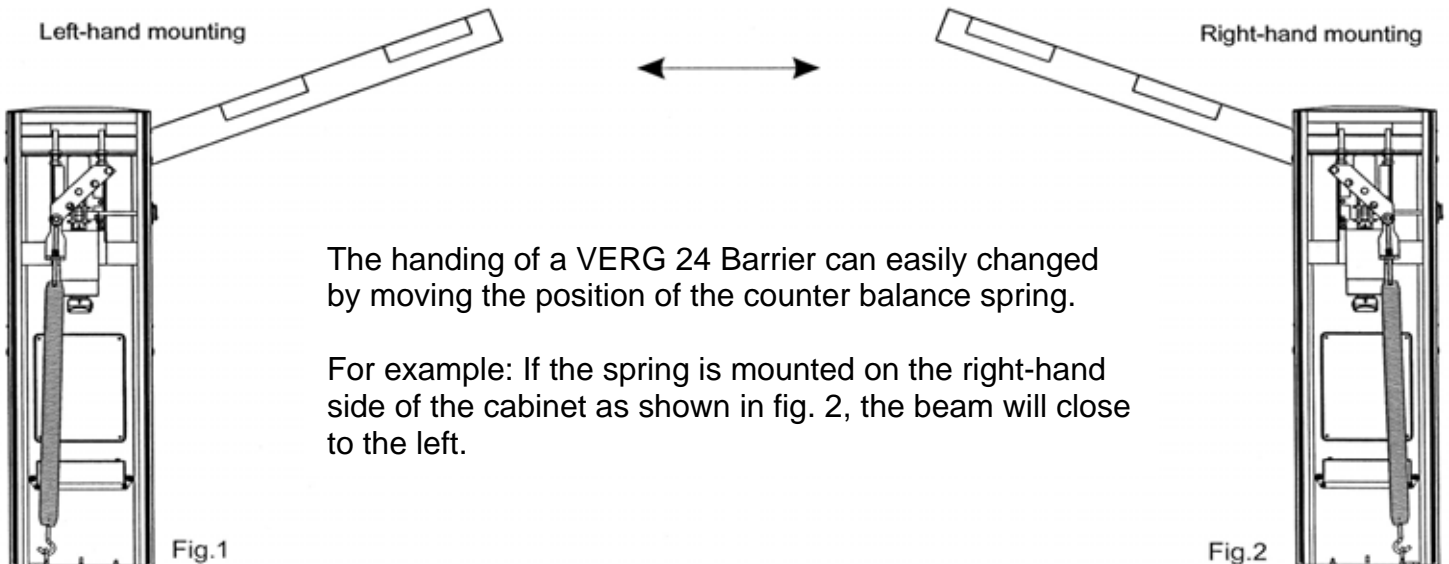
Supply Voltage:	230 Vac ⁺ 5% - 50/60 Hz
Absorbed Power:	6A
Motor Power:	90 W
Motor Speed:	2400 RPM
Working Temperature:	-20 ± 55°C
Usage Frequency:	60%
Opening/closing Time:	Electronically Adjustable
Protection Class:	IP55
Anti-crush Device:	Optical Motor Encoder
Beam Locking:	Yes
Slowdown:	Electronic
Cabinet Treatment:	Cataphoresis Treatment & Polyester Painted
Electronic Control Unit:	Gate 1 24V (code 23001130)
Weight (without beam):	39 Kg.

Overall dimensions:



INSTALLATION INSTRUCTIONS

1) Spring position



2) Foundation Plate

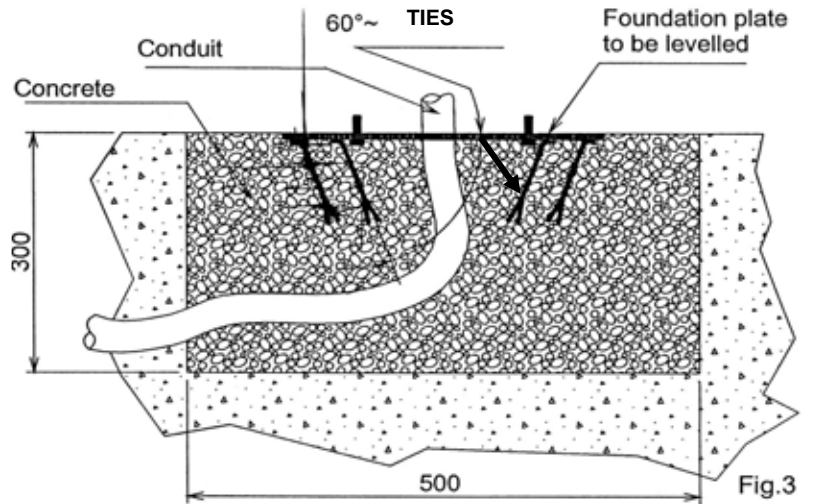
Figure 3 is showing a typical example for reference purposes only.

The size of the hole to be dug is dependant on site conditions encountered and the length of the barrier beam being installed. For example: A foundation being dug into sandy soil will need to be larger than one being dug into firm soil.

Bend the Foundation Plate Ties to angle as shown and open up the splits at the end of the Ties to provide a good fixing into the concrete.

Arrange the mains cable and a cable duct to pass through the centre hole in the plate.

Fill the hole with a strong concrete mix making sure the plate orientated correctly and perfectly level.

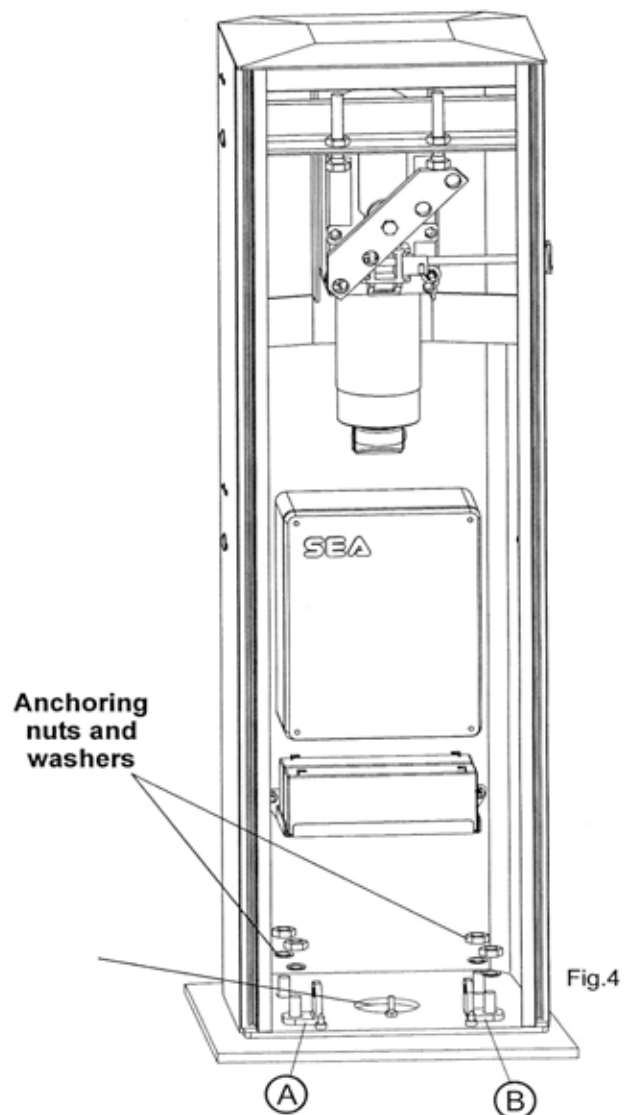


3) Installing the Cabinet and Spring Anchor Brackets.

Place the cabinet onto the threaded base plate studs.

Place the Spring Anchor Bracket (**S**) onto the correct stud (as shown in fig. 4). Use stud 'A' for Left-hand mounting and stud 'B' for a Right-hand mounting – see figures 1 & 2.

Bolt the cabinet down to the base plate using the nuts and washers supplied with the kit.



.4) Fitting the 'balance pin - P' into the Balance Arm.

Insert the bearing (A) into either balance hole 1 or 2 of the balance bar if the beam is 'closing to the right'. Or hole 3 or 4 if the beam is closing to the left. The choice of which hole to use depends on the length and type of beam that requires balancing – see tables below.

Carefully tap the bearing A into the chosen 'balance beam' hole using a plastic mallet and pin P as a drift as shown in the drawing (right).

The bearing should be flush with the face side of the beam and protrude a little at the rear to allow for the large washer to fit over the protruding bearing. Grease all moving parts during assembly.

Fit the 'travel stop' bolts & nuts in readiness for final adjusted later (fig 6).

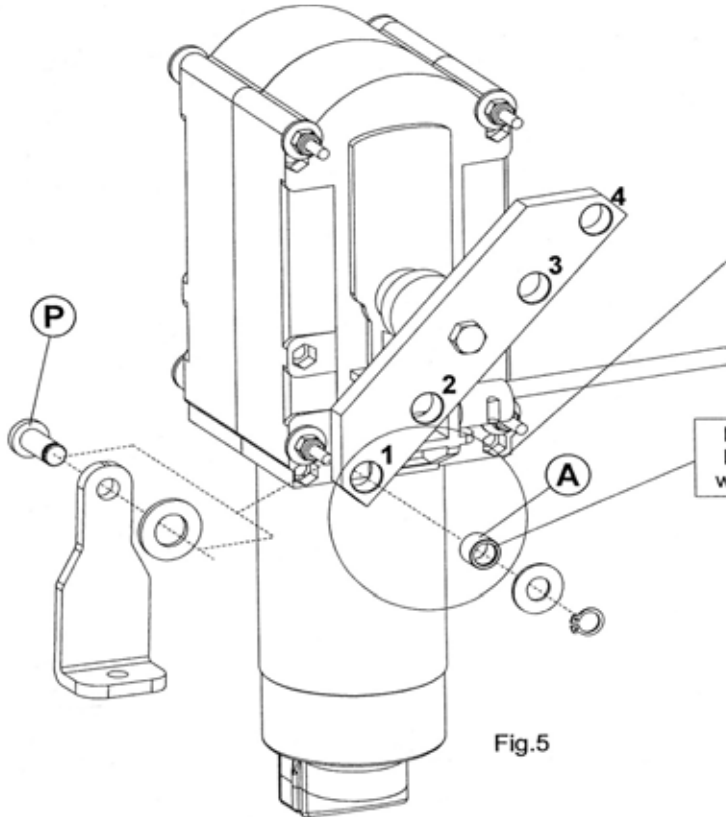
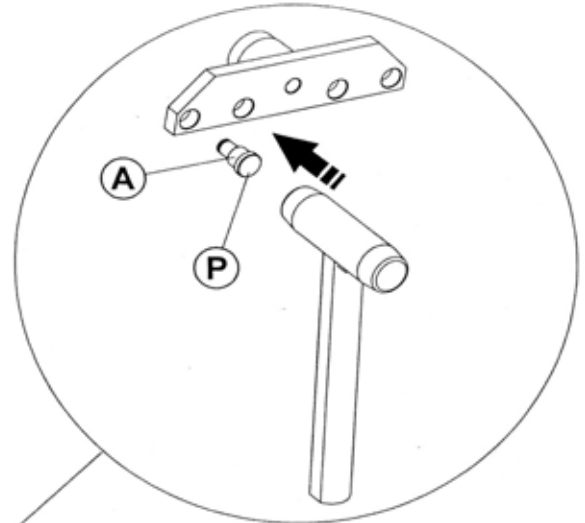


Fig.5

ROUND BEAM

Length (mt)	Balance Hole	Spring (Ø mm)	Operating Time secs
2	2 / 3	6	2 - 3
2,5	2 / 3	6	2 - 3
3	1 / 4	6	3 - 4
4	1 / 4	7	4 - 5
5	1 / 4	7	5 - 6

RECTANGULAR BEAM

Length (mt)	Balance Hole	Spring (Ø mm)	Operating Time secs
2	2 / 3	6	2 - 3
2,5	2 / 3	6	2 - 3
3	2 / 3	7	3 - 4
4	1 / 4	7	4 - 5

Note: Strictly adhere to the 'Operating Times' shown above for reasons of Safety & Operational efficiency

Note: The Spring and Beam Fixing Bracket are supplied with the Beam.

5) Fitting the Spring

Hook the Spring onto lower Anchor Bracket 'S'.

Insert the threaded rod into bracket 'B' and screw on the spring retaining nuts 'D'. They only require to be hand tight at this stage. They will require adjusting & tightening after balancing the Beam – See the next section.

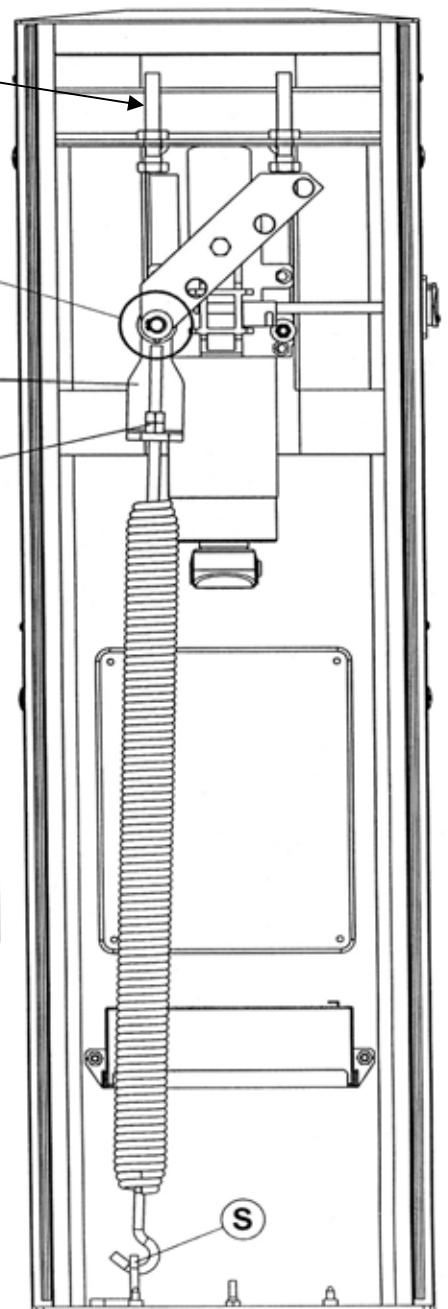


Fig.6



IMPORTANT SAFETY NOTE:

**When fitting the beam vertically, care should be taken that the beam can not fall.
When working inside the Verg cabinet, always electrically isolate the Verg from the mains supply (and batteries if applicable) and make sure the beam/mechanism cannot move unexpectedly.**

6) Fitting the Beam

Rectangular Beam (from 2 - 4 metres)

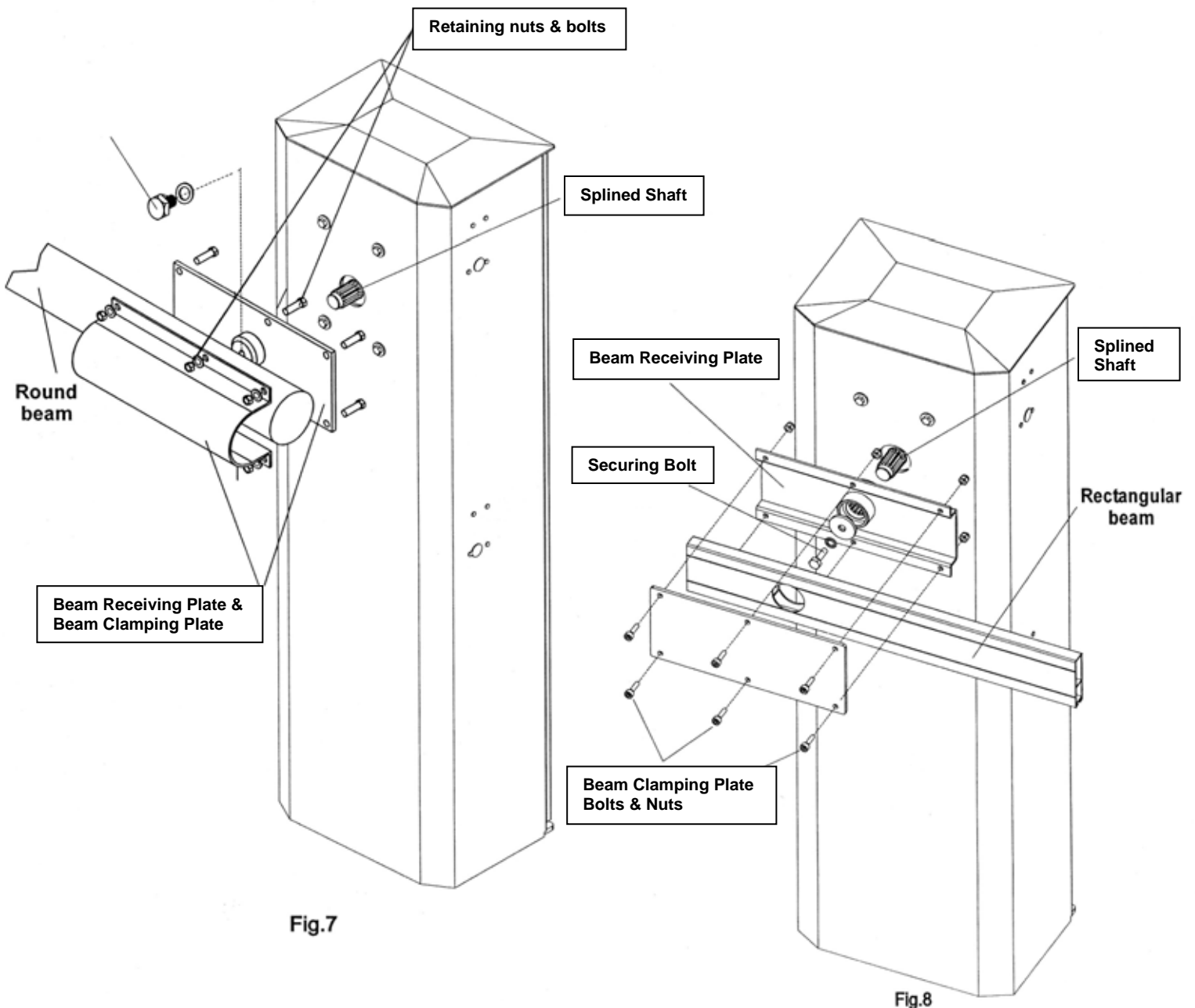
Vertically slide the Beam Receiving Plate onto the Splined Shaft and secure in place using the bolt, flat and spring washers supplied with kit.

Insert the Beam (rubber edge down) into the Receiver Plate and secure in place using Beam Clamping Plate and the nuts, bolts & washers supplied – See fig.8.

Round Beam (from 2 – 4 metres)

Vertically slide the Beam Receiving Plate onto the Splined Shaft and secure in place using the bolt, and washer supplied with the kit.

Bolt the Beam to the Beam Receiving Plate using the Beam Clamping Plate, nuts, bolts & washers are supplied with the kit for this purpose – See fig. 7.



7) Balancing the Beam

Use the Manual Release Key to put the barrier into manual operation.

A correctly balanced Beam balanced will remain at an angle of 45 degrees when placed there (see fig. 9).

Manually place the Beam at 45 degrees.

If the beam starts to drop – The Spring tension needs to be increased.

If the Beam rises – The Spring tension needs to be reduced.

When the beam is correctly balanced tighten the spring tensioning lock-nut as shown in fig. 9.

Cut down the Spring Tensioning Bolt (T) if it starts fouling the fixing pin (P) before a good balance is achieved.

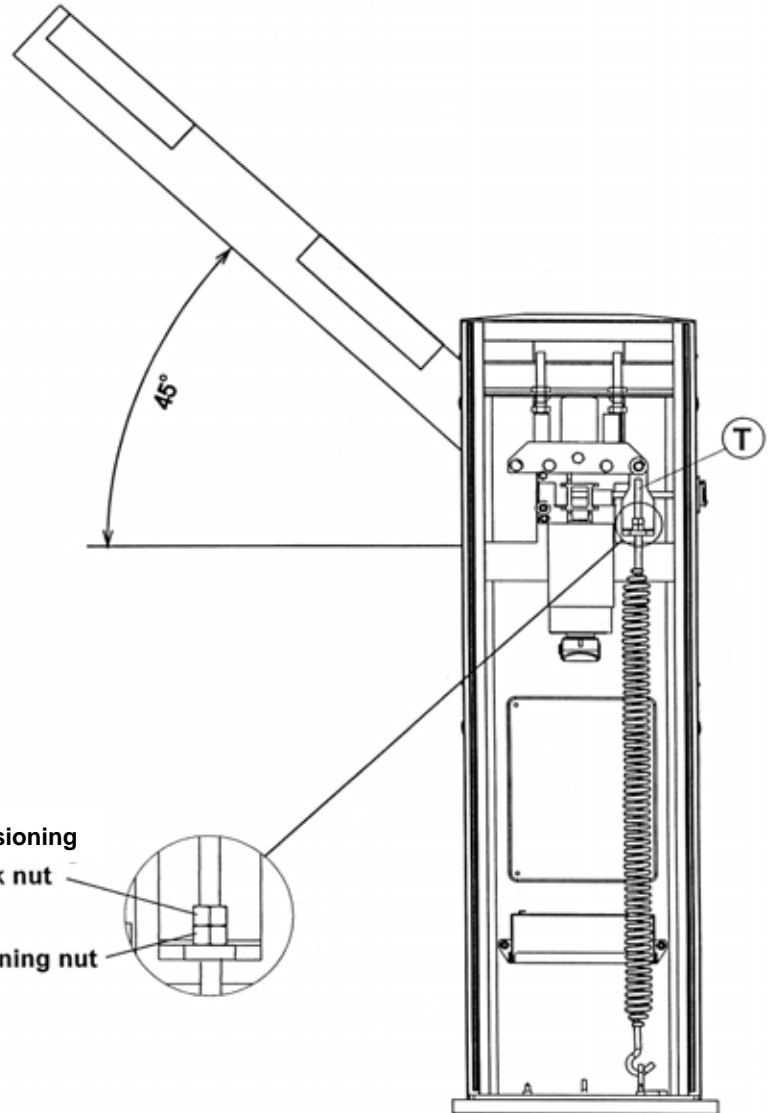


Fig. 9

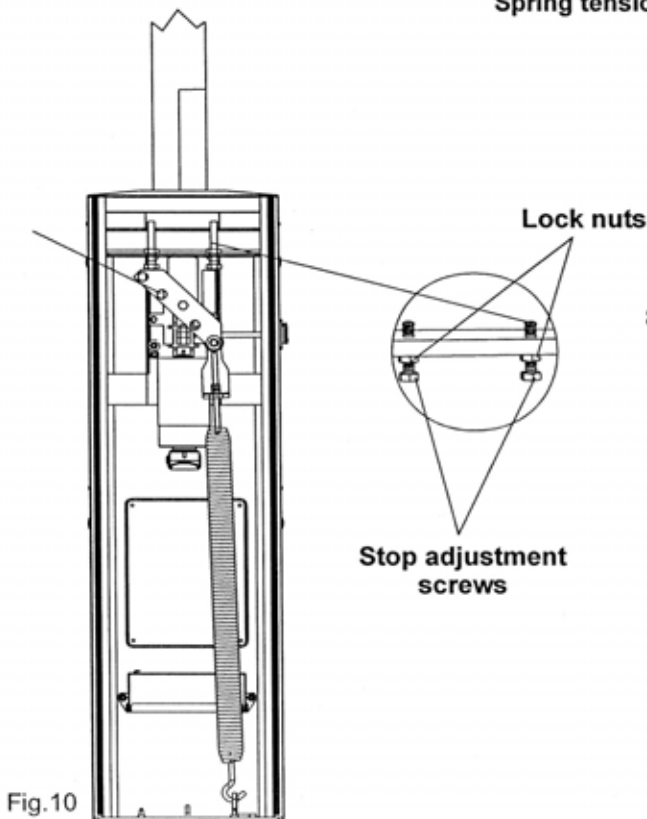


Fig.10

8) Adjusting the Beam's stopping positions.

- 1 - Use the manual release key to the Verg mechanism.
- 2 – Manually lower the Beam to the horizontal position and adjust the Travel Stop Bolt as necessary to obtain perfect alignment – Tighten the lock nuts.
- 3 – Manually lift the Beam into the vertical position and repeat stage 2 to obtain vertical alignment.
- 4 – Use the Manual Release Key to mechanically re-engage the beam.

9) Electrical Layout

Fig. 11 is showing an example of the various types of control equipment that can be used to control a Verg 24 Traffic Barrier.

N.B. The figures shown beside each cable indicate the number of core and the cable cross-section – This information is given for guidance purposes only, site conditions may dictate that different cabling to that shown is required.

Legend

- 1 – Electronic Control Unit
- 2 - Photocell Transmitter
- 3 – Photocell Receiver
- 4 – Key Switch
- 5 – Radio Receiver
- 6 – Flashing Warning Light
- 7 – Push button
- 8 – 30mA RCD/Fuse & Isolating Switch

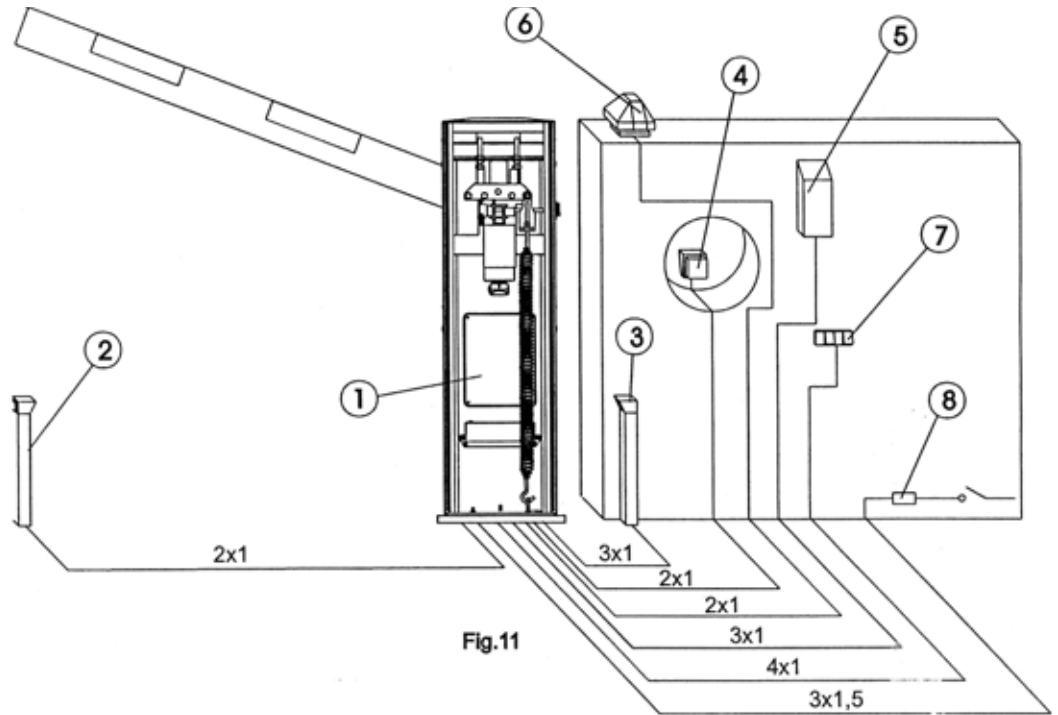


Fig.11

Routine Maintenance.

The following schedule should be carried out at:-

12 month intervals for Verg 24 Barriers that operate up to 50 times per day.

3 month intervals for intensively used Verg - 50 plus operations per day.

Procedure	Time Period
Check the Emergency Release device is operating correctly	3 or 12 months
Check the Balance Spring is correctly adjusted	3 or 12 months
Lubricate the 'Balance' Bearing and Pin.	3 or 12 months
Check all fixing nuts & bolts	3 or 12 months
Test the RCD operation, cables and connections	3 or 12 months
Test the batteries are functioning correctly (where applicable)	3 or 12 months
Test and adjust the setting of the electronic anti-crush motor torque sensor	3 or 12 months

N.B. All of the above routine maintenance checks and tests must be carried out by qualified, authorised personnel only.

IMPORTANT NOTICE

All electrical works must be carried by fully qualified personnel and in accordance with the current regulations. The operation of this device must conform to current regulations.

INTENDED USE

The Verg 24 Barrier has been designed and manufactured to be used exclusively as a Traffic Barrier

SPARE PARTS

SAFETY AND RESPECT FOR THE ENVIRONMENT

Please responsibly recycle all packaging supplied with this product

CONFORMITY REQUIREMENTS

VERG automation system complies with the following standards:

89/392/CEE (Machine Directive)

89/336/CEE (Electromagnetic Compatibility Directive)

73/23/CEE (Low Voltage Directive)

STORAGE

STORAGE TEMPERATURE			
T_{min}	T_{max}	Humidity _{min}	Humidity _{max}
-30°C	+60°C	5% without condensation	90% without condensation

The product must be handled using suitable means.

Long Term Decommissioning and Maintenance

The decommissioning and maintenance of this product must be carried out by qualified authorised personnel.

GUARANTEE LIMITS

VERG system is guaranteed for 24 months, starting from the date stamped on the product. The product is covered by the guarantee provided that the damaged was not caused by inappropriate use, changes or tampering.

The warranty shall be valid only for the original buyer.

The Manufacturer or Supplier shall not be held responsible for any injury or damage caused by inappropriate or careless use of this product.