

# Series 3 Technician's Installation and Service Training Manual

## Commercial Operator Inverted Mounting

### Materials Needed

Appropriate operator for door size. (See Brochure)  
Tools required  
3mm Allen Key, 10mm Wrench, drill, 1/4" Drill bit,  
Appropriate mounting fasteners.

### Assembly and Mounting

Follow the assembly instructions and basic mounting techniques for standard installation on hollow and solid torsion shafts.

Inverted mounts may happen outboard or inboard of the cable drum. For mounts inboard of the cable drum, ensure there is clearance between the operator and the door at the point where the door passes the operator.

### Bowden Cable

It will be necessary to loop the Bowden cable over either the jamb and track if mounted inboard of the cable drums and over the motor if mounted outboard of the cable drums. Using a cable clamp to hold the Bowden cable in place for this application is advisable, but it must not be so tight as the clamp, bind or compress the sleeve of the Bowden cable assembly. A heavy duty nylon wire tie will also suffice when there is sufficient access to secure the nylon wire tie.

### Mounting inboard of the cable drum.

With the door in the closed position and the spring tension completely relieved by completely unwinding the torsion springs using the proper tools for accomplishing the task, remove the bearing plate and cable drum of the door.

Position the inverted operator in the direction for the side of the door that best suits mounting of the torque arm. (Figure A)

Never mount the torque arm into concrete or block work using a concrete anchor. Only mount to steel or to wood jambs that have been properly secured and will not work loose with the applied torque of the operator. (Figure B) If no mount to the wall or track is available for securing the torque arm, it is ok to develop your own mount using angle iron to mount otherwise as exemplified in Figure C.

Loop the Bowden Cable over the cable drum and track assembly and mount the Bowden cable mounting bracket located at the end of the Bowden cable sheath securely as described in the Bowden cable mounting instruction.

Mounting outboard of the cable drum.

Position the inverted operator in the direction for the side of the door that best suits mounting of the torque arm. (Figure A)

Never mount the torque arm into concrete or block work using a concrete anchor. Only mount to steel or to wood jambs that have been properly secured and will not work loose with the applied torque of the operator. (Figure B)

Loop the Bowden Cable over the operator and secure as described above in the Bowden cable section above.

Mount the Bowden cable mounting bracket located at the end of the Bowden cable sheath securely as described in the Bowden cable mounting instruction.

Continue with operator installation as per the normal installation and set up instructions.



Figure A



Figure B

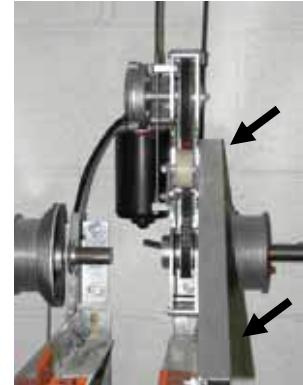


Figure C



Figure D

## ZAP Series 3 Simply Logical

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