



For Installation of ATC Assembly Codes A31a2n  
to Athearn chassis

Related Document(s) : Document # 31002 : "Size 3 ATC Stub Axle Installation"

Kit *K-Ath1* contains the following parts : Polycell squares : 2 pieces; Red loop wire : 1 piece; Securing wires : 2 pieces; Glue : 1 phial; Motor mounting plate : 1 piece; Silicone rubber tube : 1 piece.

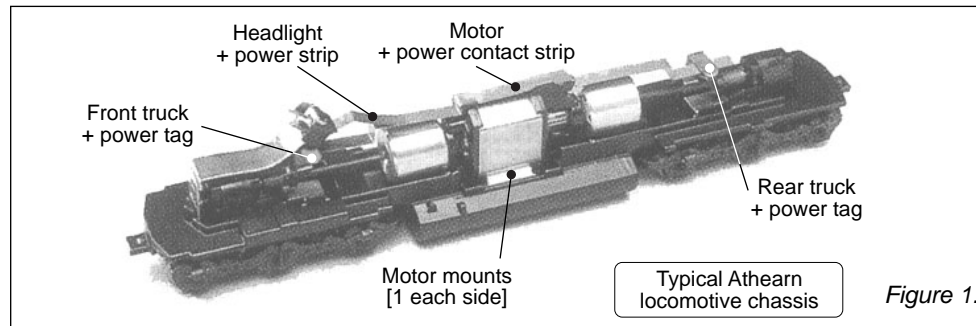


Figure 1.

## Step 1 Remove Athearn motor.

[Refer to Figure 1.]

- Remove body shell.
- Remove contact strip clipped across top of motor.

Note motor mounts ... these are reused to support ATC.

[Refer to Figure 2.]

- Using a suitable flat-ended round tool, remove motor mounts by pushing alternate securing pegs on each mount until both mounts and motor are free.

Take care to support motor as mounts are freed.

Figure 3 shows the motor 'cavity' and separated motor mounts.



Figure 2.

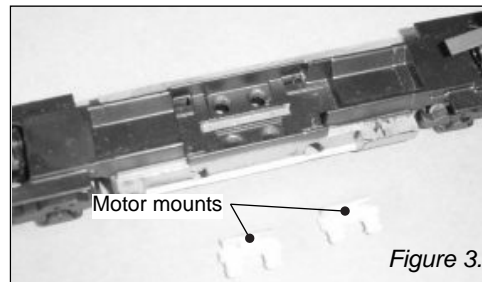


Figure 3.

## Step 2 Prepare & Fit ATC mounting plate.

Figure 4 shows the aluminium mounting plate as supplied (above), and (below) the plate trimmed, folded and fitted to an Athearn chassis.

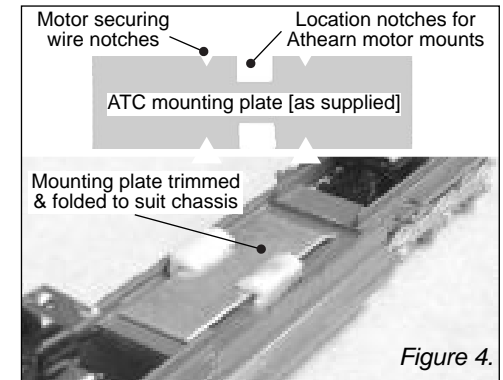


Figure 4.

### Step 2.1 Prepare ATC mounting plate

[Refer to Figures 4 & 5]

- Replace 1 (only) motor mount into the chassis.
- Trial-fit the mounting plate into the motor mount replaced in (a) above.  
[It will almost certainly be too long, at least at 1 end.]
- Select a length on either side of the motor mount that will fit the motor cavity space available in the chassis you are working with.  
[The available space varies between different types of Athearn chassis.]
- Bend 1 or both ends (as required) down so that the top of the plate is about 3mm above the base, when resting the plate on a flat surface.

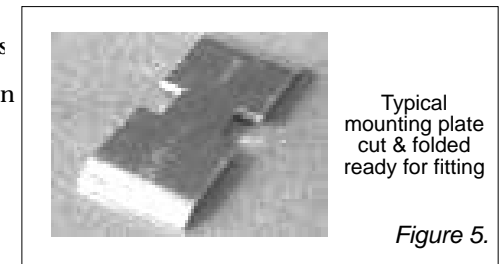


Figure 5.

### Step 2.2 Fit ATC mounting plate

[Refer to Figures 4 & 6]

- Remove motor mount used in step 2.1.
- Fit motor mounts into the mounting plate square notches (1 each side of mounting plate)
- Push this assembly into the motor mount locating holes in the Athearn chassis.
- Insert a small flat screw driver under the mounting plate at each corner of the motor mounts and push each motor mount firmly into its securing hole.

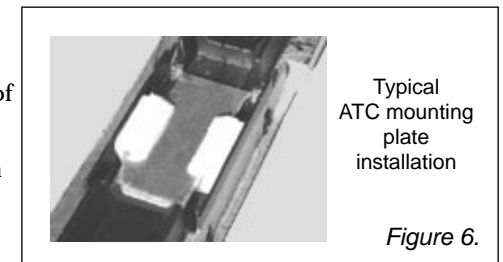


Figure 6.

### Step 3 Prepare & Fit ATC Assembly

#### Step 3.1 Fit polycell pads to motor.

[Refer to Figures 7 & 8]

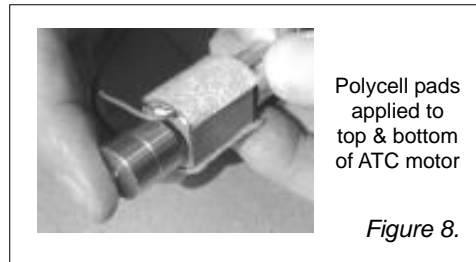
- Peel backing from 1 polycell pad to reveal self-adhesive.
- Place ATC motor across centre of pad, smooth pad across motor & up sides.
- Repeat (a) & (b), above, to apply pad to other side of motor.



#### Step 3.2 Fit ATC securing wires

[Refer to Figure 9]

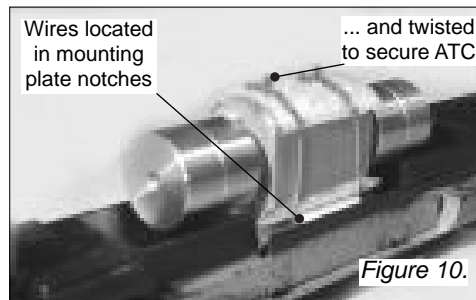
- Take each of the copper securing wires from the kit, place in a vise and pull lightly on the free end to remove kinks.
- One each wire, measure 35mm from one end and at this point make a sharp right-angle bend.
- Take 1 wire and feed the long length under the motor mounting plate.
- Seat the bend into the notch in the mounting plate, then bend the wire up on the other side of the plate, seating this bend also in its notch.
- Repeat (c) & (d), above, to locate the 2nd securing wire.



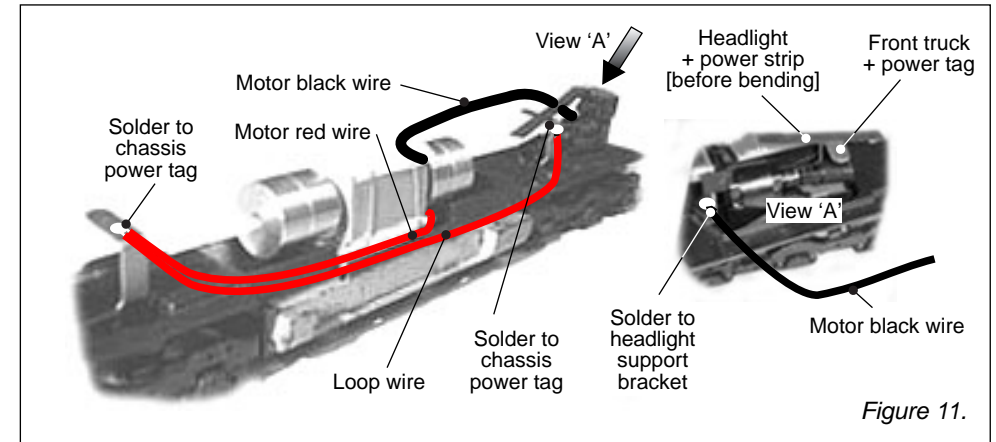
#### Step 3.3 Fit ATC Assembly to mounting plate

[Refer to Figure 10]

- Arrange chassis so that the bogies are parallel to the chassis.
- Rest ATC Assembly on Athearn motor mounts with the power cables to the front (headlight) end, and black wire at the top.  
[Note : Ensure that the red wire is inside the curvature of the motor can.]
- Position the ATC Assembly so that the distance from each bogie + power tab (see Fig. 1) to the ATC end cap is equal.  
[Note : with the ATC Assembly in this location, it will not be central on the Athearn motor mounts.]
- Maintaining this ATC location, twist the securing wires in turn to secure the ATC to the mounting plate.



### Step 4 Connect ATC and Headlight Power



#### Step 4.1 Connect ATC power

[Refer to Figure 11]

- Solder motor red wire together with one end of the red loop wire to either + power tag (see Fig. 1)
- Solder other end of red loop wire to other power tag.  
NOTE : when soldering to the front truck power tag, solder either to the vertical section, or UNDER the horizontal section.
- Solder the black motor wire to the headlight support bracket.  
[See Fig.11; View 'A']
- When soldering is complete, lay red & black wires in such a way to enable free turning movement of the truck and ensure that the wires to not impinge on the ATC end caps. Secure the wires in the set positions with soft-setting adhesive.

#### Step 4.2 Headlight power

[Refer to Figure 11]

- Bend headlight power strip into a 'U' shape such that it rests on top of the front truck power tag.