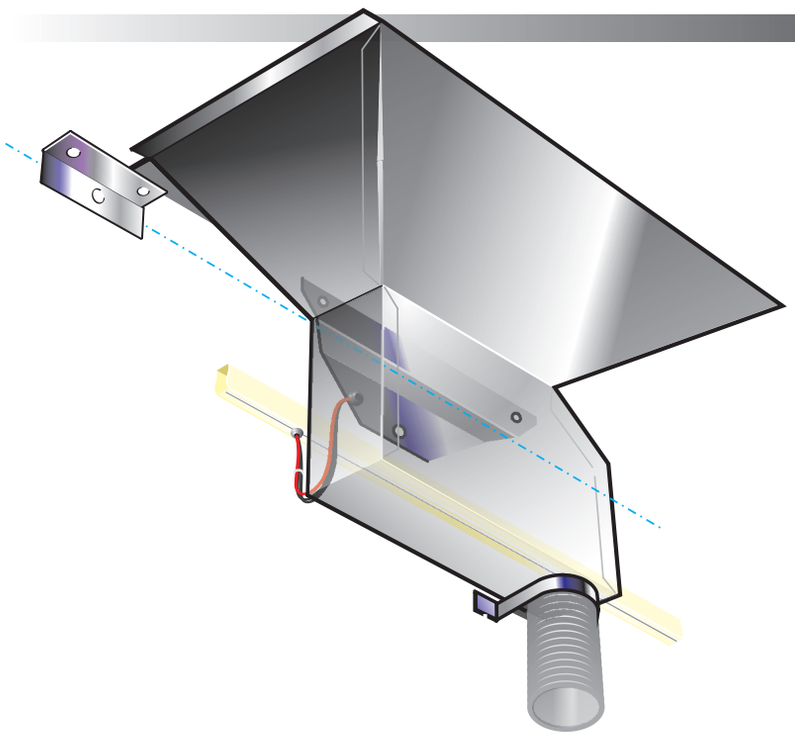
FULL HOPPER AND STANDARD FEEDER INSTALLATION



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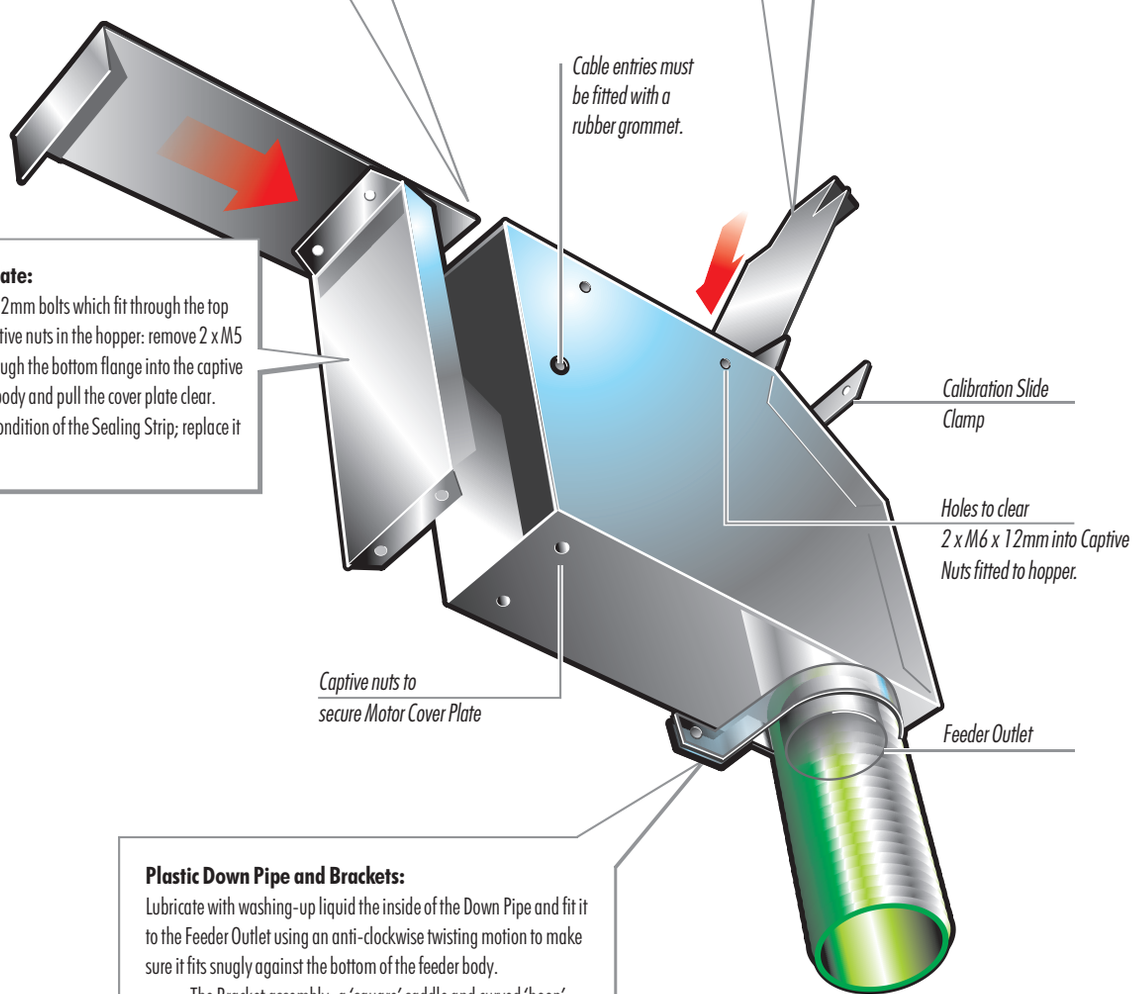
FULL HOPPER AND STANDARD FEEDER INSTALLATION: **1**

The ATL 12volt DC Electric Timed Feeder: Standard Body

Cut Off Slide:
Prevents cake spilling out of the hopper when the feeder is removed. Remove the Motor Cover Plate and fit the Cut Off Slide into the narrow slit above the motor compartment and below the hopper flange. Keep the slide horizontal so that it rests upon the two rivets at the rear of the feeder body and the captive nuts at the front. With the slide in position the feeder may be removed from the hopper.

The Calibration Slide:
Used to 'throttle' the flow of cake to the auger to ensure all of the feeders deliver the same ration in a given time, the Calibration Slide fits into the narrow slot between the hopper mounting flange and the feeder end and MUST rest upon the fixing rivet.. The Clamping Plate and 2 x M6 x 12mm stainless steel bolts lock the slide in position when calibration is complete. The slide is factory fitted to the feeder.



Motor Cover Plate:
Remove 2 x M6 x 12mm bolts which fit through the top flange into the captive nuts in the hopper: remove 2 x M5 x 10mm fitted through the bottom flange into the captive nuts in the feeder body and pull the cover plate clear.

Check the condition of the Sealing Strip; replace it if it is damaged.

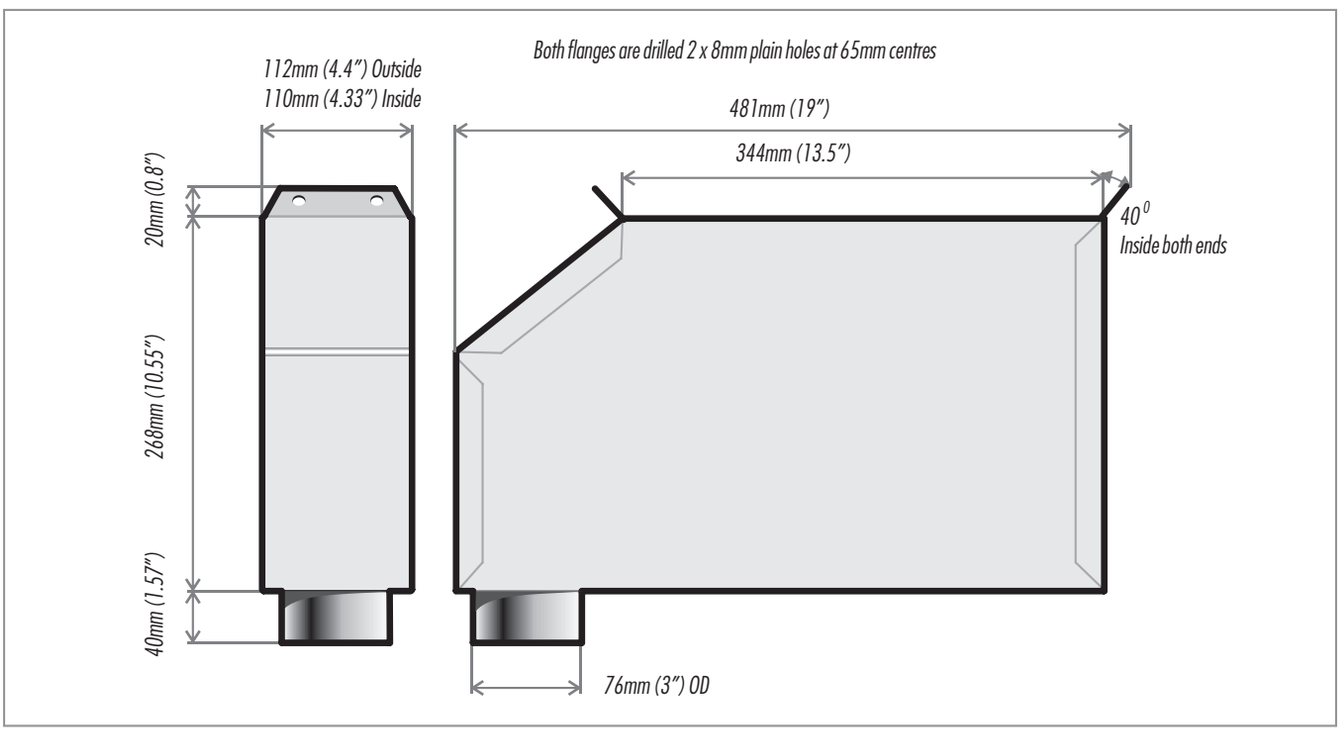
Plastic Down Pipe and Brackets:
Lubricate with washing-up liquid the inside of the Down Pipe and fit it to the Feeder Outlet using an anti-clockwise twisting motion to make sure it fits snugly against the bottom of the feeder body.

The Bracket assembly- a 'square' saddle and curved 'hoop' must be located as tightly as possible beneath the feeder body so that it both clamps the down pipe in position and helps to support the feeder. Use the M8 x 60mm coach screws and plugs supplied.

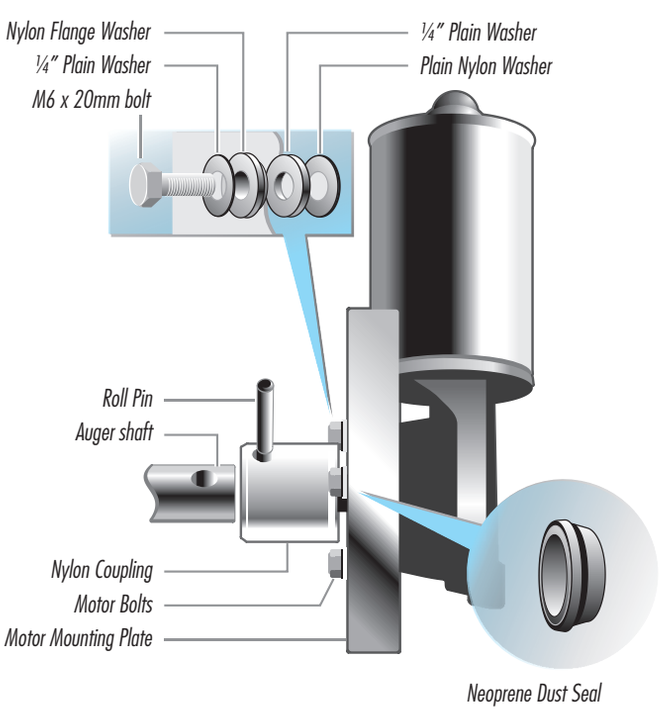
FULL HOPPER AND STANDARD FEEDER INSTALLATION: **2**

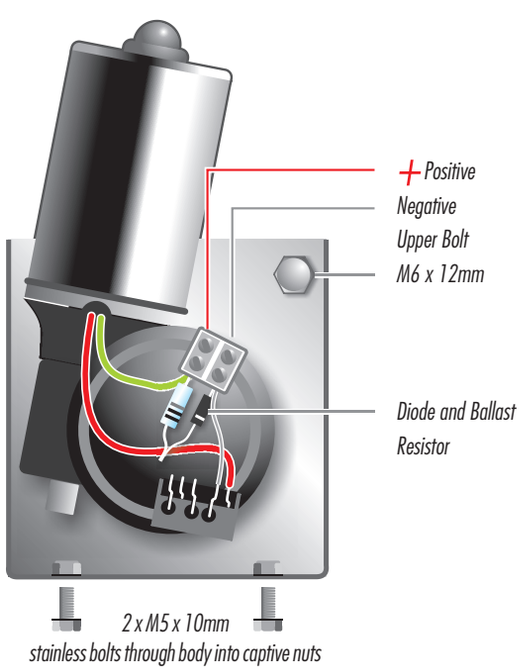
ATL Standard 12volt Timed Feeder.

All dimensions are nominal. For difficult, space critical installations please contact ATL before ordering.



ATL Standard 12volt DC Feeder Motor Connections, Mounting Plate and Coupling details.



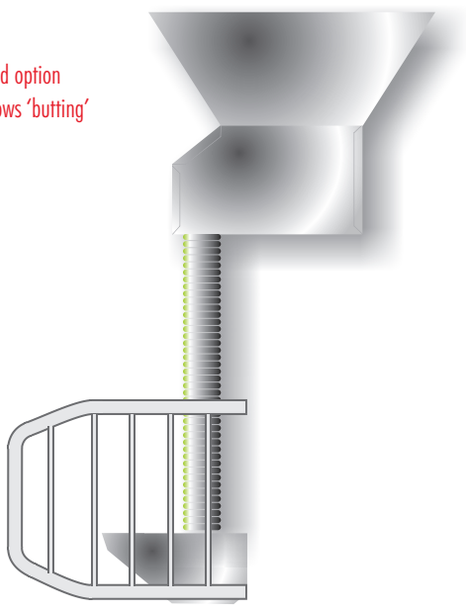


FULL HOPPER AND STANDARD FEEDER INSTALLATION: **3**

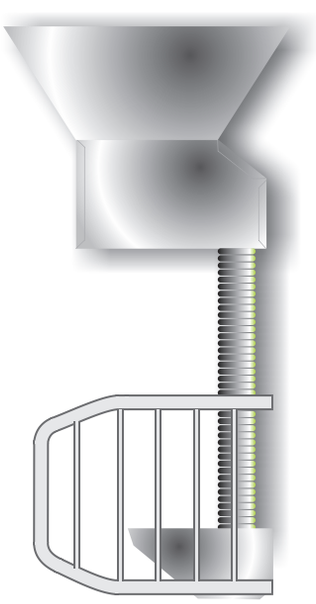
ATL Standard 12volt Timed Feeder: Hopper and Feeder arrangements:

Feeder and Hopper Offset from Stall

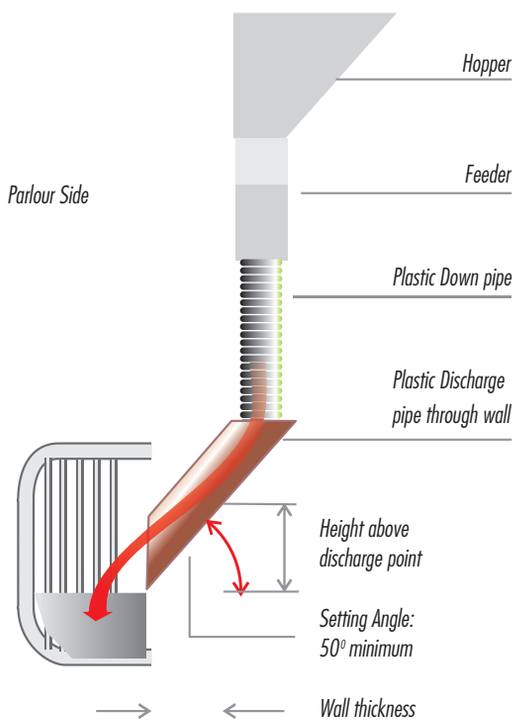
* Preferred option prevents cows 'butting' the feeder.



Feeder and Hopper in line with Stall



Feeder and Hopper on the outside of the parlour



Where possible, mounting the feeders and hoppers outside the parlour reduces clutter, improves hygiene, prevents cows 'nibbling' at down pipes and from whacking feeders in the (vain) hope of dislodging a little extra cake!

But out of sight cannot mean out of mind. Fixings- especially the number of down pipe brackets must not be skimped because a hopper full of feed exerts a hefty load on the feeder.

With this arrangement, a short piece of flexible down pipe discharges into a length of slightly larger plastic pipe which is champfered to follow the inside line of the wall and act as a 'scoop' at the outer end. The discharge into the manger must be flush with the wall.

The setting angle is important; less than 50⁰ and cake will jam in the pipe and create a backlog. Follow the chart below for the optimum angle v wall thickness.

Wall Thickness:	Height above Discharge:
230mm (9")	274mm (10.8")
254mm (10")	305mm (12")
280mm (11")	335mm (13.2")
305mm (12")	365mm (14.4")
343mm (13.5")	411mm(16.2")

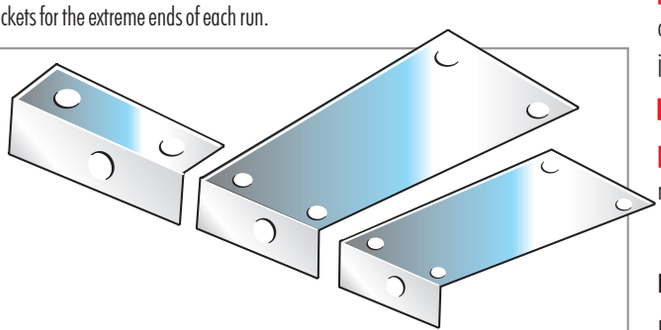
FULL HOPPER AND STANDARD FEEDER INSTALLATION: **4**

36" and 26" Full Hopper and Feeder Installation:

The hoppers are secured to the parlour wall by two upper brackets and a single triangular-shaped lower bracket.

For stalls 1 metre apart the standard 36" hopper is used but positioned at 1metre centres, the resulting gap between adjacent hoppers being filled by the special bracket.

In the same way for stalls at 30" centres, the 26" hopper is positioned at 30" centres with again a special bracket bridging the gap. These 'infill' arrangements use standard top brackets for the extreme ends of each run.



Standard, 1metre and 30" infill brackets. Hopper flanges sit on top of the brackets. The infill type fix along the hopper side flanges.

Refer to Page 3 for the recommended feeder positions. To avoid 'head-butts', keep the feeders as high as possible commensurate with the bulk feed auger and drop tube length. The tube should descend into the hopper by about 50mm (2") if hopper lids are not being used.

Having established the height of the hopper top rim:

- 'Snap' a horizontal chalk line along the wall 18mm(3/4") below the hopper rim height. This will be fixing centre line of the upper brackets marked (A) on Page 5.
- The first upper bracket fits completely behind the first hopper: Drill the wall (M10 x 60mm deep) on the chalk line, fit the upper bracket using the wall plug and coach screw supplied.
- Fix a lower bracket to a hopper (2 x M6 x 12mm set screws and nuts).
- Fit the next upper bracket to the hopper (1 set screw for standard brackets/2 set screws for infill bracket) with the bracket beneath the hopper flange-hopper resting upon bracket.
- Offer up the hopper to the wall resting it upon the existing bracket making sure that the holes align. Mark and drill both upper and lower fixings; fit the hopper using 2 x M8 coach screws and wall plugs supplied.
- The next hopper shares the upper bracket so proceed along the parlour side fitting each hopper in turn using the procedure above. The upper bracket for the last hopper must be fitted so that it does not project beyond the hopper flange.

Fixing the Conduit and Cables

Use box (25 x 25mm), round (20 or 25mm)or flexi-(25mm) conduit with either junction boxes or grommet-lined holes for the cable exit.

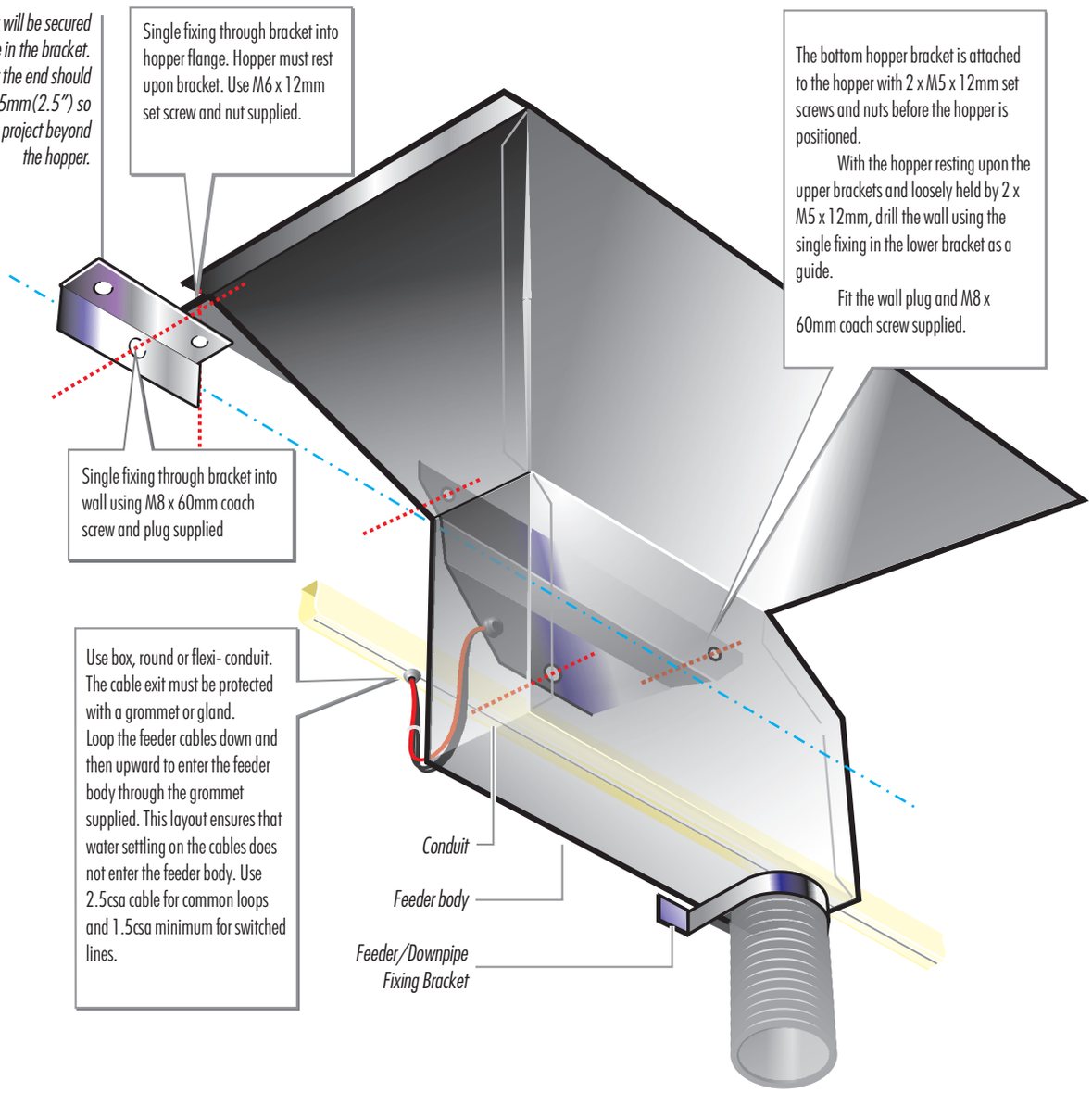
- Fit the conduit close up to the lower hopper brackets. In this position there will be sufficient clearance above the feeder cable entry to prevent cables becoming trapped.
- To prevent water ingress, box conduit exit holes must be in the lower edge and round or flexi- conduit junction boxes should have the exit spur facing downward. Do not use junction box with a hole drilled in the face.
- Position the exit holes/junction boxes more-or-less along the centre line of the hopper.
- Run the feeder cabling using the csa specifications from the control installation manual, leaving ample 'tails' to connect to the feeder. Fit the box conduit cover.

Fitting the Feeder and Down Pipe:

Please refer to Page 6

FULL HOPPER AND STANDARD FEEDER INSTALLATION: **5**

Full Hopper and Feeder Fixing



! *The feeder is shown in position but the hopper and conduit are fixed to the wall before the feeder is fitted.*

FULL HOPPER AND STANDARD FEEDER INSTALLATION: **6**

ATL Standard Feeder-to-Hopper Fixing:

- The grommet through which the feeder motor cables pass must be fitted into the side facing the wall. Do not drill additional holes through the motor cover plate.
- Remove the motor cover plate and the calibration slide clamp plate (if fitted).
- Offer up the feeder body and feed the motor cables though the grommet and into the motor compartment.
- Tilt the feeder and locate the two holes inthe casing rear over the two rivet heads that project from the rear of the hopper flange (A). *The hopper fits inside the feeder*
- Straighten the feeder, align the two holes in the front top edge with the two captive nuts fitted to the hopper front flange (B).
- Fit 2 x M6 x 12mm stainless steel screws through the feeder body and into the captive nuts.
- Align the holes in the feeder end with the captive nuts fitted to the hopper end (D). Ease the calibration slide up so that the clamp plate can be fitted with 2 x M6 x 12mm stainless steel screws. Again, leave the screws finger tight.
- The downpipes should be cut to the appropriate length. Smear a little washing up liquid around the inside edge of the downpipe and fit it to the feeder outlet using an anti-clockwise twisting motion. The pipe must fit tightly against the bottom face of the feeder body.
- The top downpipe bracket must be fitted as close as possible to the underside of the feeder, clamping the downpipe and supporting the feeder. Each bracket comprises a 'square' support and a curved' clamp which are secured using the M8 x 60mm plugs and coach supplied.
- Additional brackets must be fitted at no more than 500mm (20") intervals to provide acceptable support.
- Connect the feeder motor cables checking the polarity and ensuring that diodes are in place and fitted correctly- the white band to the (+) supply.
- Replace the motor cover plate securing it with 2 x M6 x 12mm (Top flange) and 2 x M5 x 10mm (Bottom flange) stainless steel screws.
- Check that the whole assembly is 'true' and tighten all of the screws.