NOBLE TRUCK SHUTTERS

MANUFACTURE - INSTALLATION - REPAIRS

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INFORMATION FOR ROLLING TYPE, LIMITED SIDE ROOM SHUTTERS USING SQUARE END AXLE SET UP

Please see the "OUR PRODUCTS" page of this site for individual component measurements and shutter options.

A Square End Rolling type shutter is required when less than 50mm of side room is present at each side of the opening where the shutter is to be fitted. This is common within small toolbox set ups or when multiple shutters are installed next to each other on the same side of a vehicle. If 50mm or more of side room is present, then the standard capstan type set up is used (Please see our 'Standard Capstan Rolling Shutter' PDF for details).

This system can also be used on buildings when shutters are fitted between walls (please see our 'Hand Operated' PDF for details on Hand Operated shutters for buildings).

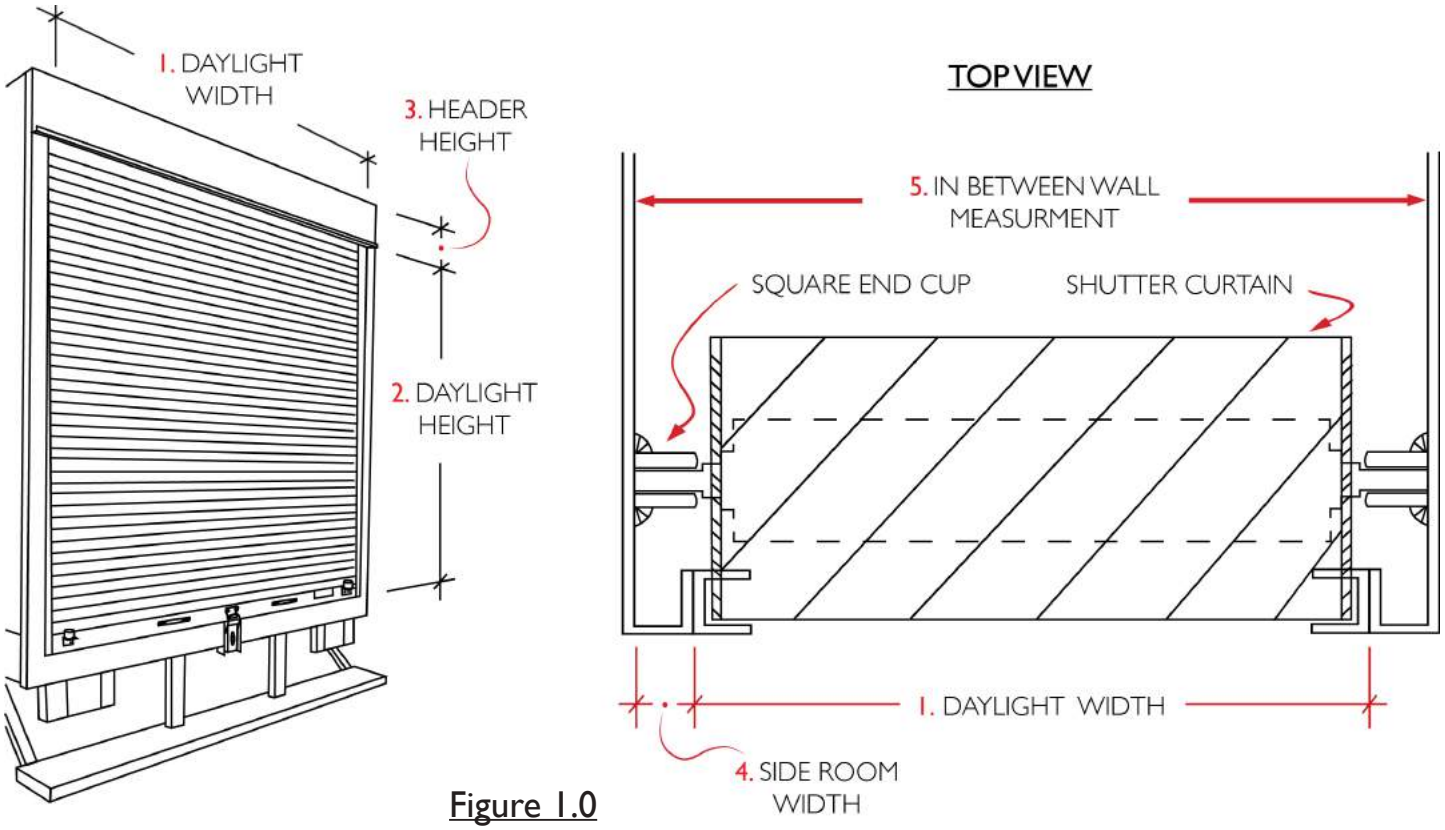


Figure 1.0

Information required for the manufacture of square end rolling shutters includes: (See Figure 1.0)

1. Daylight width,
2. Daylight height,
3. Header height,
4. Side room width,
5. Overall measurement between walls,
6. Fit between (recommended) or Fit behind,
7. Shutter finish,
8. Track type required,
9. Lock type required.

On larger shutters, it is imperative to measure the opening day light width at the bottom, the middle and the top in case the opening is out of square.

This type of shutter can be fitted with several different types of locking systems.

PLEASE NOTE: When the shutter is in the fully opened position, the bottom rail will sit under the header subtracting 70mm from the daylight opening height when using all types of bottom rails excluding the barlock bottom rail, which will subtract 130mm from the daylight opening height.

Rolling type shutters with limited side room need a central sprung roller to allow for easy operation. The roller is mounted into a square end bracket system that is fitted to the truck body framework or walls (See Figure 2.0). They roll up tightly around the spring assisted roller, fitting behind a header panel to cover the roll and the gap between ceiling and shutter curtain. They travel up and down in vertical tracks.

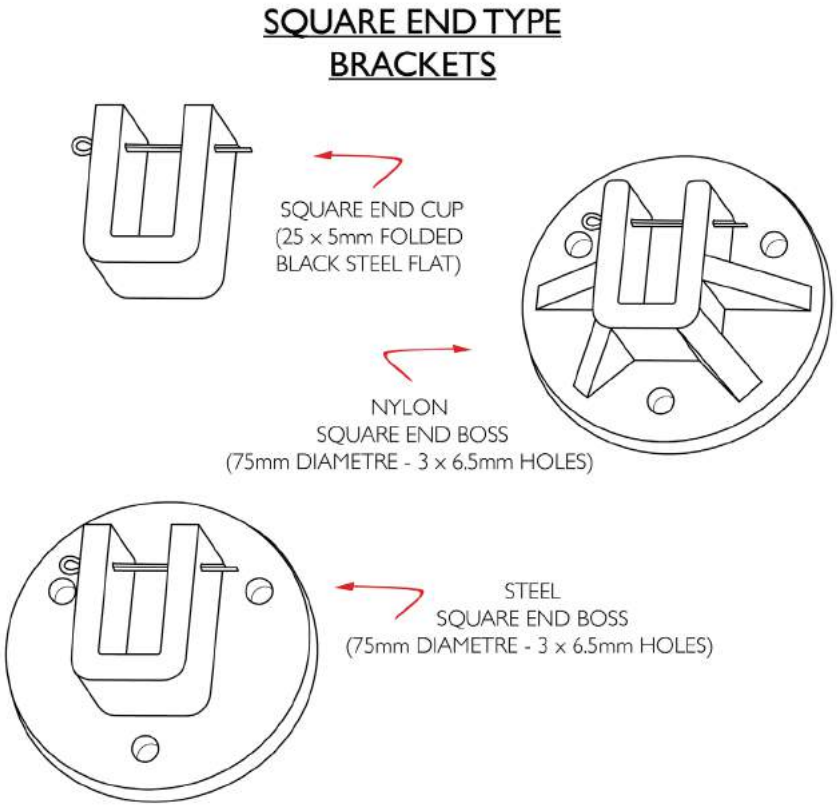


Figure 2.0

The header size is determined by the diametre of the rolled up shutter. On wider shutters, it is recommended to make the header as large as possible to minimise deflection between the shutter curtain and header when the shutter is in the fully closed position. Usually, a pantech truck will need a header of approximately 250mm or larger, where a smaller service vehicle shutter may only need around 200mm. This depends on the daylight height of the opening (See Figure 3.0).

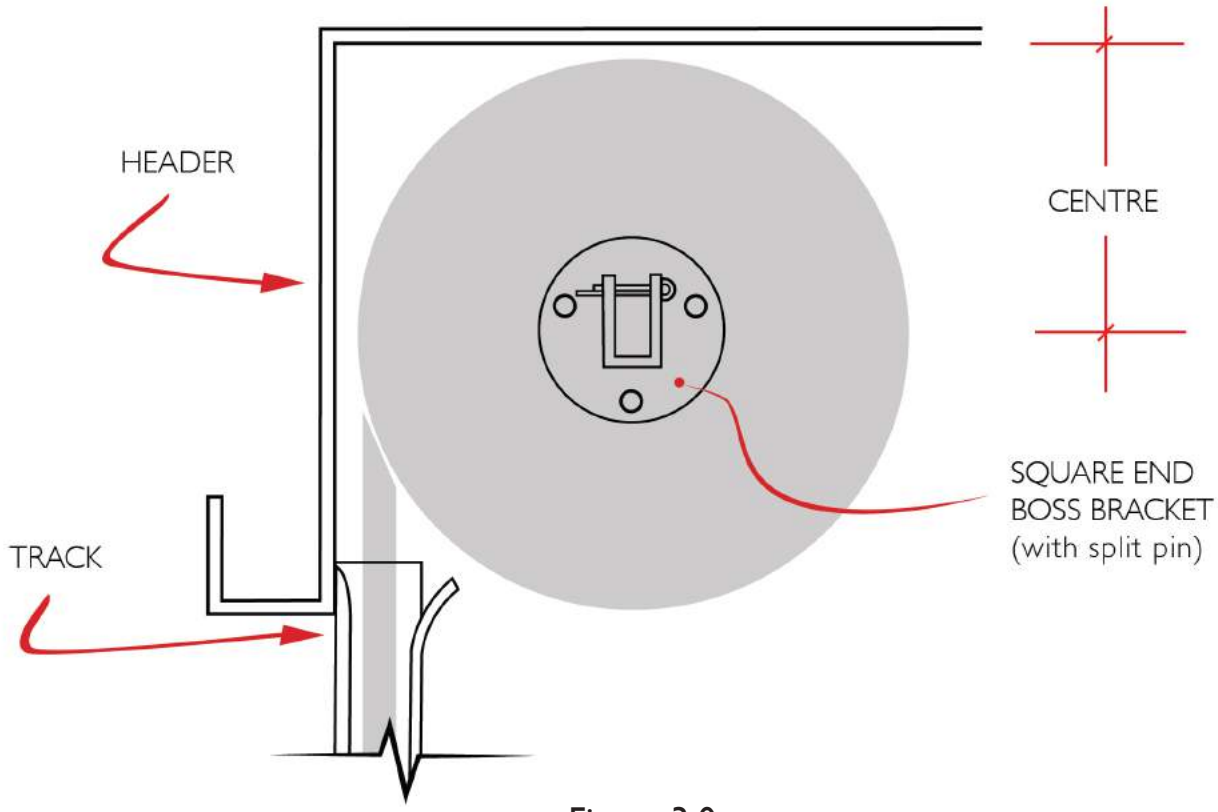


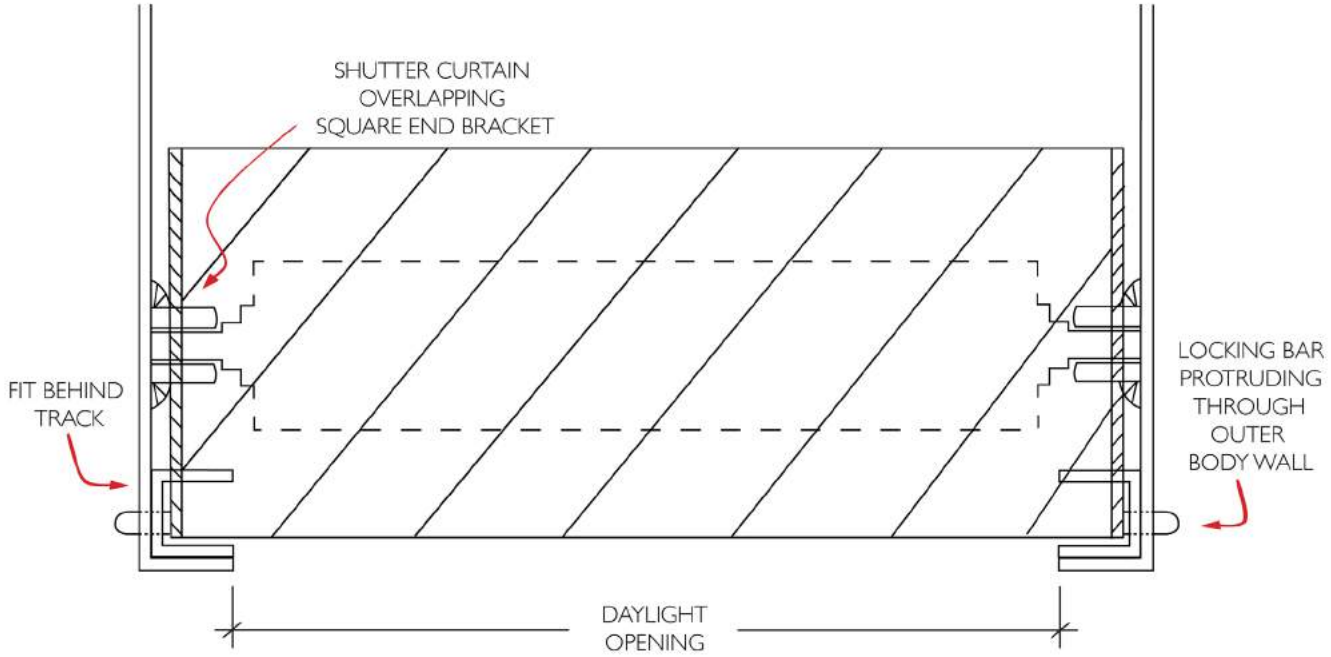
Figure 3.0

Certain toolbox shutters which are small enough to be sliding type, may not always have the room for tracks to travel across the top and down the rear of the toolbox. Eg: If a toolbox had a light fitted to the ceiling or a shelf coming off the rear wall. In these cases, a small shutter would need to roll up behind a header.

When there is not enough side room for a standard capstan bracket set up, a narrow system is required. The Square End set up can be used on any rolling type truck shutter or hand operated shutter regardless of size.The end of the spring assisted roller axle is squared off and slots into a 'U' shaped cup or boss bracket which can be mounted to the side wall of the vehicle body or building wall. A split pin is fitted above the shutter's axle for safety after the shutter is positioned into the brackets.

It is recommended to have at least 25mm of side room so that the complete shutter can be slotted straight into the square end brackets. Less than 25mm side room will make the installation more complicated due to the axle not protruding an adequate distance out of the side of the shutter's curtain. In this instance, the curtain will interfere with the square end brackets during installation (See Figure 4.0).

When there is less than 25mm of side room on each side of the opening, the shutter's curtain will need to be split into sections before installation and slid back together at intervals whilst applying tension. More tension will need to be applied to the shutter each time a section of curtain is added.



TOP VIEW - FIT BEHIND TRACKS WITH ZERO SIDE ROOM
(THIS SET UP IS NOT RECOMMENDED!)

Figure 4.0

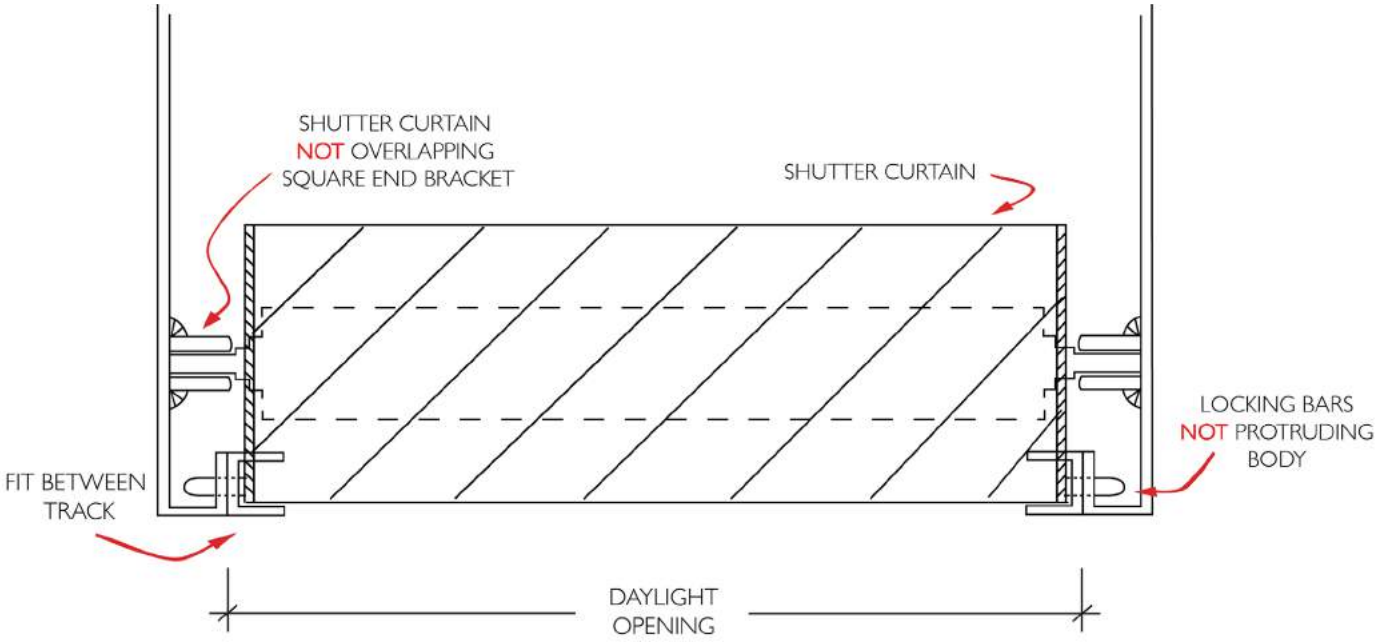
Side room is also required when the shutter has a type of locking system that uses locking bars that throw sideways into the tracks. If there was zero side room and a T-handle locking system was used, the locking bars would pass through the side walls and would be visible from the outside of the toolbox (See Figure 4.0). These lock holes could also pose a problem in wet weather.

When using the **'FIT BEHIND'** installation method on an RHS frame, more side room is required for the bracket set up plus the track size. In this instance, a weather step is harder to achieve as the shutter will be sitting further into the vehicle body and a centre clamp lock or bar lock system may be impossible to install.

The tracks of the shutter usually **'FIT BETWEEN'** the daylight opening width. Using this method is the simplest option and prevents any mis-calculations. This means that on each side, the tracks project into the opening by the amount dependant on the size of tracks supplied (See Figure 5.0).

Standard track size is 25mm, or 38mm for the deeper style tracks. This makes the final 'between tracks opening' size 50mm or 76mm smaller than the daylight opening, respectively (once tracks are installed to both sides of opening).

A weather prevention system should be built into the vehicle's bodywork so that any excess water run off that funnels down through the tracks, then makes it's way to the outside of the vehicle. This can be achieved as a small step in a pantech body or an angled sill in a toolbox.The 'FIT BETWEEN' method keeps the shutter all the way to the edge of the vehicle, making a weather step easier to achieve as well as installing a centre clamp lock or quick release barlock system.

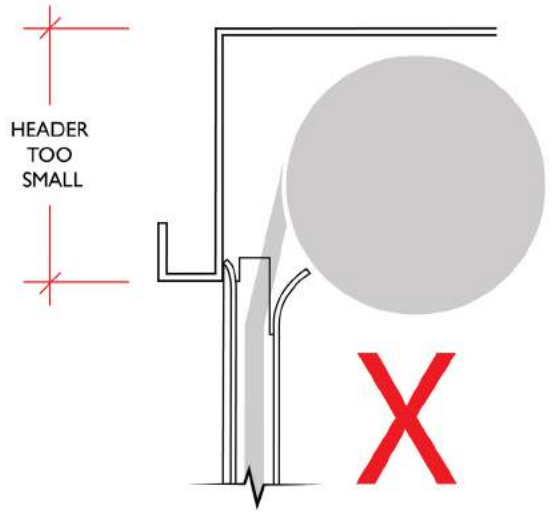


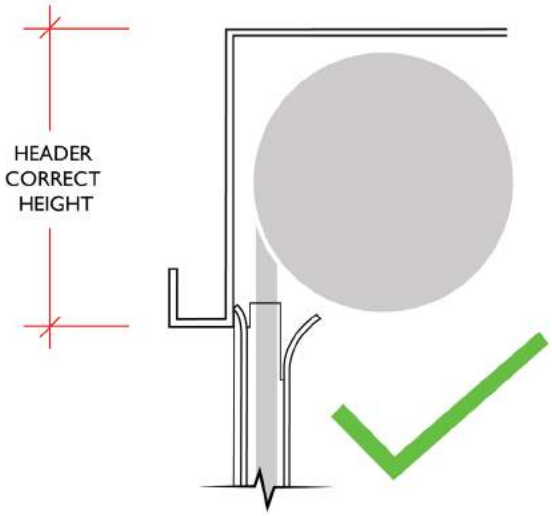
TOP VIEW - FIT BETWEEN TRACKS WITH 25mm SIDE ROOM
(RECOMMENDED SET UP)

Figure 5.0

ROLLING TYPE SHUTTER INSTALLATION WITH SQUARE END AXLE SET UP.

PLEASE READ CAREFULLY BEFORE ATTEMPTING INSTALLATION





If a shutter is installed incorrectly, it will suffer wear and tear quicker than a well installed shutter.

A common mistake is to have a header which is too small to cover the roll of the shutter adequately.

This will force the track curls to be too high and in turn, the shutter mounted too far away from the header.

When the shutter is in the open position, the curtain should be as close to the header as possible. The bottom of the header should be lower than the bottom of the rolled up shutter.

To this point, tracks should be fitted last once the shutter is positioned correctly.

A shutter must be installed correctly to minimise deflection across the shutter at the header and to also minimise pressure on the ends of the top slats which are positioned at the track lead in curls when the shutter is in the closed position. Most wear and tear on a shutter will start at this point and quickly get worse if the shutter is installed incorrectly.

ROLLING TYPE SHUTTER INSTALLATION WITH SQUARE END AXLE SET UP.

PLEASE READ CAREFULLY BEFORE ATTEMPTING INSTALLATION

TWO INSTALLERS ARE REQUIRED FOR LIFTING AND TENSIONING LARGE TRUCK SHUTTERS

1. CENTRE

Measure the centre of the supplied shutter from the middle of the axle to the outside of the bottom rail. You will need to add another 10-15mm to this measurement for clearance. Mark the measurement down from the ceiling of the truck on each side of the opening.

2. BRACKET INSTALLATION

USING NYLON OR STEEL SQUARE END BOSS BRACKETS:

Both types of boss brackets have a centre hole so that they can be aligned with your centre measurent previously marked out. Position the bracket and mark out the holes using the bracket as a template. The boss is situated with the slot opening to the top. Drill out the holes to 6.5mm. Using strong rivets or cuphead bolts, attach the bracket to the wall (See figure 2.0 & 3.0).

USING STEEL SQUARE END CUP BRACKETS:

Weld the brackets so that the bottom of the cup is 15mm lower than the centre measurement. This is half the thickness of the 20mm axle plus the 5mm thickness of the steel cup (See Figure 6.0). Be sure to position the cup equally on each side of the vertical centre measurement line. The position of the split pin should be away from the wall.

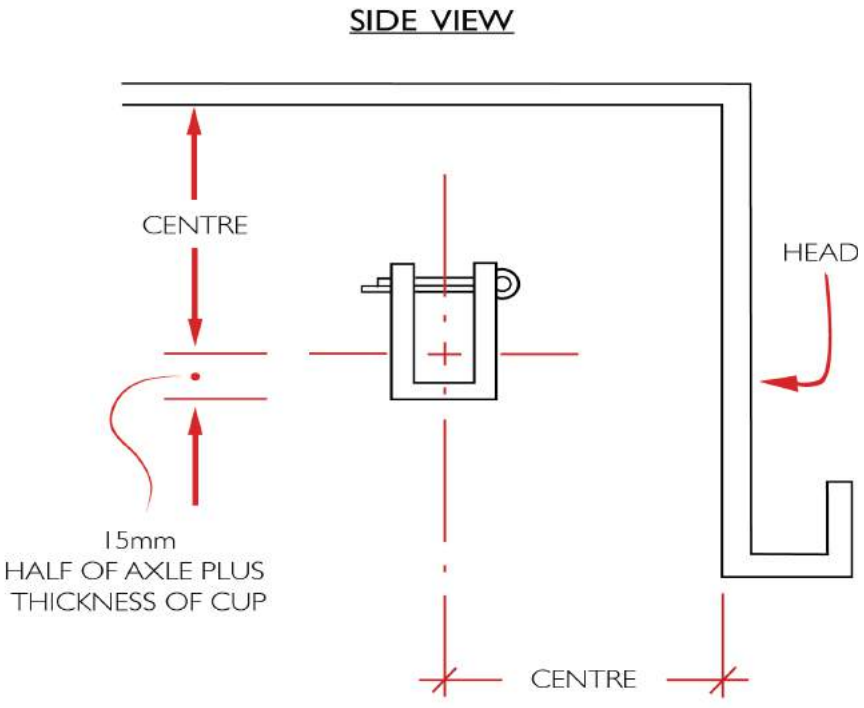


Figure 6.0

3. LIFTING SHUTTER INTO POSITION

While the shutter is still in its packaging, making sure that it is situated the correct way around, lift it carefully into position. Two workers are requried to ensure that the shutter is kept level whilst lifting, and that the curtain remains rolled up straight. Install the provided split pins above the axle for safety.

4. TRACKS

Cut the tracks to the desired length so that they are at least 10mm higher than the opening. Cut, curl and clean the top of each track remembering that a left and a right hand configuration is required (See Figure 7.0). If using a centre clamp lock or shoot bolt locking and the shutter is supplied with the bottom rail already fitted, the tracks can be attached at this stage with tac welds or rivets. Make sure that the curl will not interfere with the operation of the shutter.

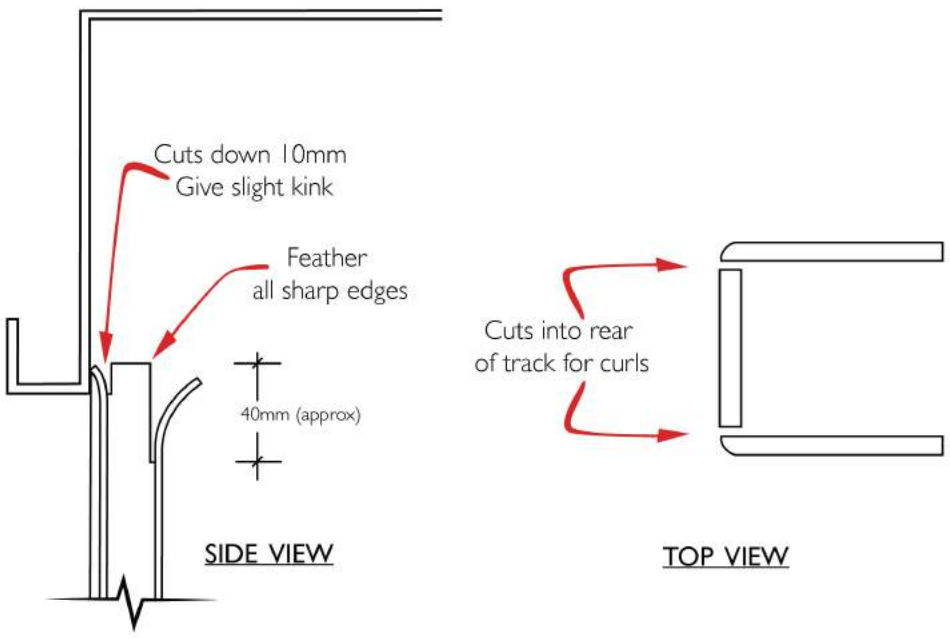


Figure 7.0

If T-Handle, Flush Key or Bar Lock systems are being used, the bottom rail will supplied separate with all hardware attached. The tracks must be fitted after the bottom rail has been slid on and secured with the supplied nylon clip and rivet. This is done after tensioning the shutter, so leave the tracks off for now.

5. TENSIONING SHUTTER

WARNING: DO NOT LET GO OF THE TENSIONED SHUTTER AS IT WILL TAKE OFF AND UNWIND UNCONTROLLABLY CAUSING DAMAGE TO ITSELF AND THE VEHICLE AND POSSIBLY HARMING THE INSTALLER.

It is necessary and safer for two installers to apply the tension. Cut off the shutter's outer cardboard packaging, leaving the inner plastic taped up. Turn the shutter in a downward direction to apply tension (See Figure 8.0). Between 3-6 turns are required depending on the size of the shutter (the bigger the shutter, the more turns of tension required). You must check that the shutter curtain is still centred in the opening and has not been knocked one way whilst being transported and installed into the brackets.

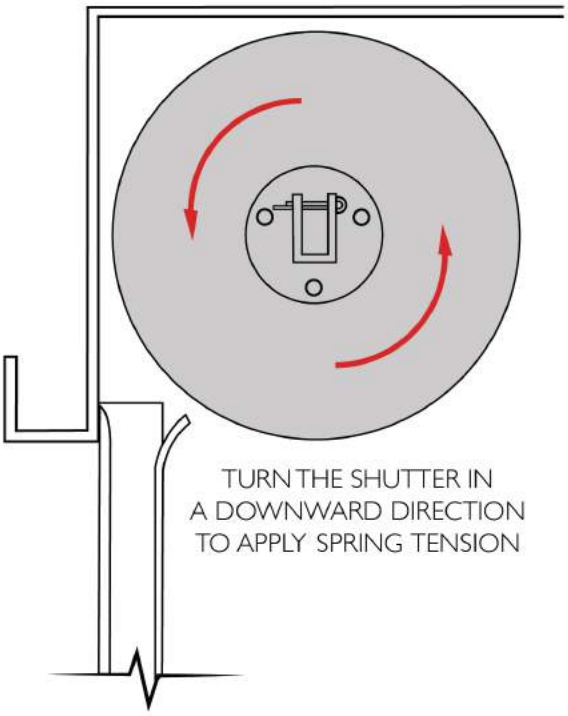


Figure 8.0

The very top slat of the curtain that joins to the roller needs to be central to the opening. If it is not, you must pull the shutter curtain down behind the tracks (if they have already been fitted). Cut the tape holding the shutter tight and pull the curtain all the way down until the very top slat is exposed. Take care not to damage the lower part of the shutter curtain by dragging it on the truck body's floor.

Using a pinch bar, lever the top slat back to centre and start to raise the shutter slowly. Lever the rest of the curtain back to centre whilst slowly raising the shutter. You may need to nudge the curtain on either side every few hundred millimetres to keep it aligned. All the end clips should be in line with each other and central to the opening before feeding the shutter into the tracks. Alignment is only requied once. The shutter will run true once aligned.

This step can be avoided by carefully tranporting and lifting the shutter into place without knocking it out of alignment.

6. TENSION:

Pulling the shutter downward, it should feel as if it wants to go back to the header. When nearing the middle of the opening height, it should want to stay stationary. When pulled all the way to the bottom, the shutter should want to lift slightly by itself.

The shutter should never want to fall. This would mean that the shutter has been under-tensioned. Add another turn of tension. The shutter tension should also not be too strong either, wanting to take off toward the ceiling of the vehicle extremely fast. This would be over-tensioned and a turn may need to be taken off.

TESTING AND ADJUSTING THE TENSION:

SHOOT BOLTS OR CLAMP LOCK:

Feed the shutter into the tracks, fit the provided angle rubber stops or shoot bolt locks so that the shutter will stop at the header and can no longer pull out of the tracks. Slowly raise and lower the shutter to test it. If adjustments are required, the bottom rail fittings will need to be removed and the shutter carefully retracted out of the tracks and a turn of tension removed or added. Refeed the shutter into the tracks, retest and if the desired tension has been achieved, secure all the bottom rail fittings.

T-HANDLE, FLUSH KEY OR BAR LOCK:

Fit the bottom rail by sliding it from the side where the first slat clip is vacant. After sliding it on, do not fit the supplied clip just yet. Slowly raise and lower the shutter to test it. Even without the tracks installed, you will be able to feel if the tension is suitable.

If tension adjustments are required, slide the bottom rail off the curtain and carefully remove or add a turn of tension. Refit the bottom rail and retest. If the desired tension has been achieved, attach the supplied clip between the grooves in the first slat securing it with the supplied rivet. Be sure that the curtain remains central to the opening and runs straight. Now the tracks can be fitted into place.

7. FITTING HARDWARE

For spring loaded shoot bolt, T-handle, Flush lock and Bar lock bottom rails, you will need to open holes through the tracks and stiles of the truck in order for these to move into the locked position. Cut the holes as low as possible so that the shutter does not jump up and down when locked. Excessive wear is the result of locking holes that are cut too high.

With the Quick Release Bar Lock, the supplied Keepers must be secured in the shutters closed position next to the opening.

For these and all other locking system installations, please see the "Locking Systems" downloadable PDF.

Note that lubricants are not required for the shutter to operate. However, WD40 spray or equivalent is recommended for smoothness. It will not attract unwanted dirt and grime and will help ease unwanted friction.

8. ANTI-RATTLE STRIP

If anti-rattle strip has been supplied for standard tracks, simply cut it to the 'daylight opening height' and push it onto the front leg of the track with the pile facing the shutter curtain (See Figure 9.0). An adhesive within the push on clip channel of the anti-rattle is not necessary, however, a small amount every few hundred millimetres is recommended for longevity.

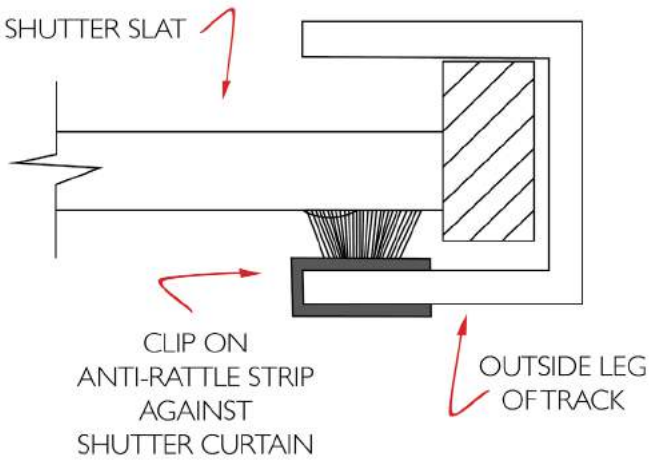


Figure 9.0