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DOOR LIFTING GEAR CM 500 BOX

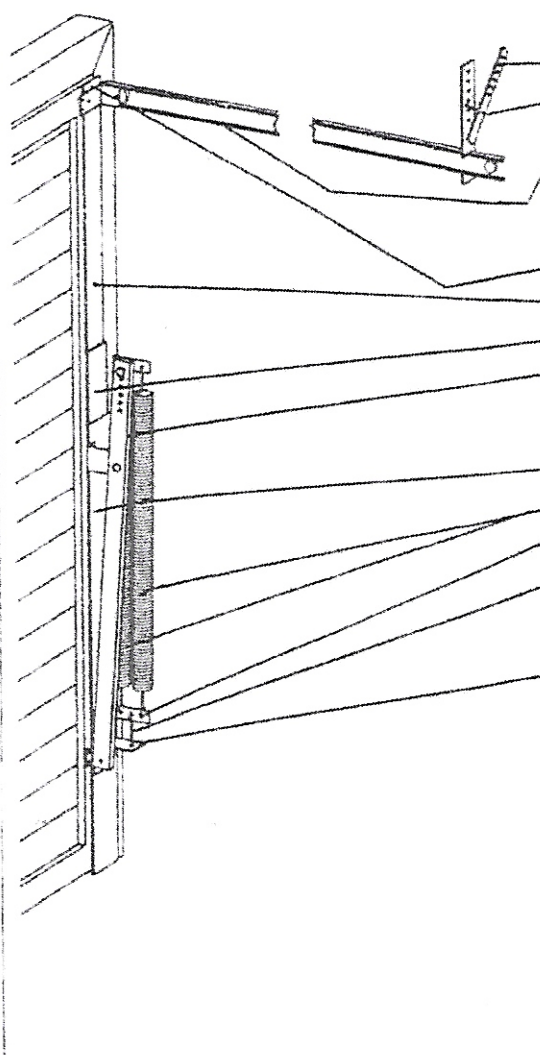
This door gear has been designed for quick and easy installation. Through careful design it is possible to adjust the door after installation for very smooth operation. To obtain these benefits read the instructions RIGHT through BEFORE installation.

CAUTION

ALWAYS raise and prop the door in the open position before fitting, adjusting or removing the springs

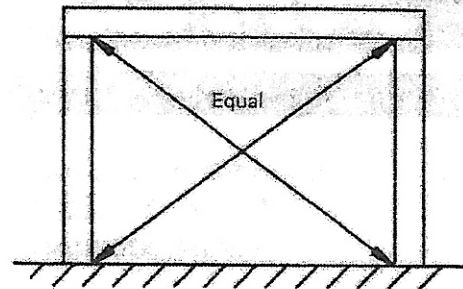
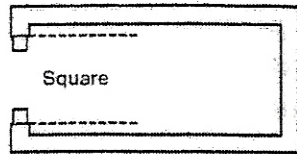
All instructions are given from within the garage

Firstly unpack and identify the parts (right hand assembly shown)

	Description	Part No.
	Track stabiliser bracket	4 off
	Track support bracket	4 off
	Track with track bracket and rubber buffer	2 off
	M10 Washers	4 off
	M10 x 30 Hex sets and nuts	2 off
	Top roller bracket	2 off
	Top weather strip	2 off
	Intermediate weather strip	2 off
	Activating arm with spring anchor pin fitted	2 off
	Top roller spindles	2 off
	Circlips	4 off
	Bottom weather strip	2 off
	Springs	4 off
	Bottom spring anchor bolt	2 off
	Spring anchor bolt	2 off
	M12 nuts	4 off
	M12 washers	2 off
	Spring anchor bracket	2 off
	Screw Pack	
	M10 x 60 Hex head coachscrews	6 off
	M10 Washers	12 off
	M8 x 40mm Hex head coachscrews	18 off
	No 12 x 3/4" self tapping screws	20 off
	M8 x 20mm Hex head nuts, bolts and washers	4 off
	M8 x 60 Hex head coachscrews	4 off
	M8 Washers	26 off
	M10 x 90 coachbolts	6 off

STEP 1 FRAME DETAILS

Minimum timber frame size 70mm x 70mm.
Frame must be square, check diagonals.
Frame must also be square with opening.

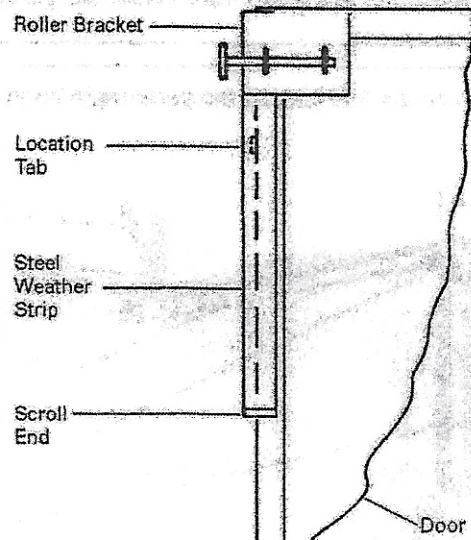
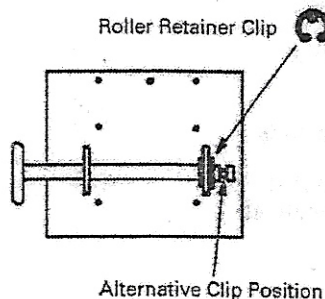


STEP 2 FIT TOP ROLLERS AND WEATHER STRIPS

GO STRAIGHT TO STEP THREE IF TOP ROLLER BRACKETS AND WEATHER STRIPS ARE PRE-FITTED

Locate the top roller bracket flush with the top of the door matching the same overhang as the top weather strip. On doors OVER 50mm (2") thick, lower the top roller bracket by the same amount. i.e. door thickness 62.5mm (2½") lower the bracket by 12.5mm (½"). Fix the roller bracket and weather strip using No. 12 x ¾" self tapping screws.

TAKE GREAT CARE NOT TO DRILL RIGHT THROUGH THE DOOR FACE

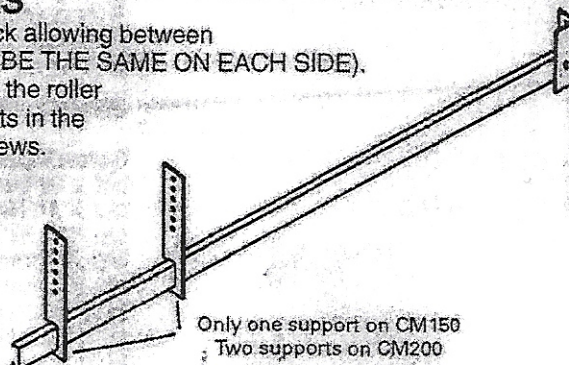


STEP 3 POSITION DOOR IN OPENING

Wedge the door in the opening allowing 10mm side and head clearance and at least 10mm ground clearance.

STEP 4 INSTALL THE TRACKS

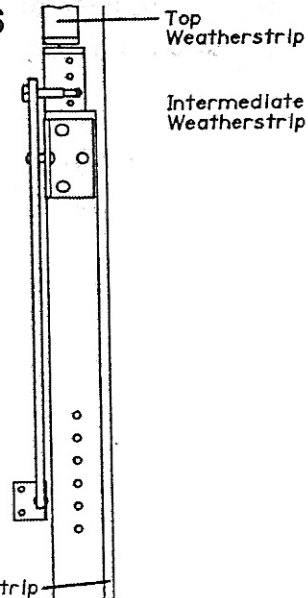
Locate track over roller, support rear of the track allowing between 25mm and 40mm fall to the rear. (THIS MUST BE THE SAME ON EACH SIDE). With the track JUST TOUCHING the bottom of the roller drill 2 x 6mm pilot holes in the middle of the slots in the track brackets. Fix using 2 x M8 x 60 coachscrews.



Slide on track support brackets and fasten to a suitable support square to the door and allowing the fall as above with 1 M8 x 40mm coachscrew. (Other supports will be fitted later). Fit rubber Buffers in rearmost track hole and adjust later to correct hole for door open position.
IMPORTANT TRACK HANGERS & STABILISERS MUST BE FITTED AS RECOMMENDED

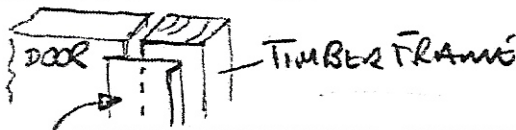
STEP 5 INSTALLATION OF ACTIVATING ARMS

Locate and fix intermediate weather strip allowing 3mm ($\frac{1}{8}$ ") gap to top weather strip using 2 No. 12 x 25mm self tapping screws. Measure distance from bottom of intermediate weather strip to floor, cut excess from bottom weather strip. Mount weather strip using 4 No. 12 x $\frac{3}{4}$ " self tapping screws. Locate activating arm vertically onto bottom weather strip and fit 2 M10 x 90mm (10mm hole) coachbolt through holes in activating arm bracket. Do not tighten yet. Fit bottom activating arm bracket ensuring that the arm does not foul the bottom weather strip. Drill 2 6mm pilot holes so that the 2 M8 x 40mm coachscrews fit in the top of the slotted holes.



TAKE CARE NOT TO DRILL RIGHT THROUGH THE DOOR.

Tighten coachscrews in activating arm bracket.



BOTTOM W/STRIP WITH STRENGTHENING FLANGE

STEP 6 INSTALLATION OF SPRINGS

OPEN door and prop it firmly in the fully open position. The top spring anchor is fitted. If needed reposition it according to the guide shown. This may save time on spring adjustment later. Locate springs over top spring anchor plate then assemble bottom spring anchor plate over bottom of springs. Locate spring anchor bolt over spring anchor plate. Fix spring anchor bracket using 1 x M10 x 90mm coachbolt in top hole (10mm hole) and 1 x M10 x 60mm coachscrew in other hole (pilot hole 7mm) in the position that allows the spring anchor bolt just to go through the bracket. Tighten spring 25mm (1").

DOOR WIDTH	Wt
18'	250lb
17'	240lb
16'	225lb
15'	210lb

Note: Guide is very approximate.

STEP 7 TRACK SUPPORTS

Remove the prop and the door should be touching both buffers. If the door is only touching one buffer adjust the tracks, i.e. from behind the door if the left hand buffer is not touching the door move both tracks to the right. When the door is square fasten middle track supports and 4 track stabiliser brackets.

STEP 8 DOOR BALANCE

If the door closes too easily:

Prop the door in the fully open position then remove spring and move the spring anchor pin **DOWN** one hole, be sure to retighten pin fully. Repeat for both sides.

If the door is hard to close:

Prop the door in the fully open position then remove spring and move the anchor pin **UP** on hole, be sure to retighten pin fully, repeat for both sides.

Fine adjustment can be carried out by adjusting the spring anchor bolts equally on both sides.

STEP 9 DOOR ADJUSTMENT

The door should now be working in a satisfactory manner however, after installation the door can drop slightly check:

Is the gap between the top and bottom weather strips still 3mm ($\frac{1}{8}$ "'). If not SLIGHTLY loosen the coachscrews in the bottom activating arm bracket and raise door to achieve gap, then retighten coachscrews.

Are the top rollers just touching the bottom of the tracks? If not adjust front track brackets and retighten.

Is the door clear of the frame during opening and closing? If not check first that tracks are square, see STEP 7. If door still catches frame adjustment can be obtained by adjusting main activating arm brackets, loosen coachscrews SLIGHTLY adjust then retighten screws.

STEP 10 OILING THE DOOR GEAR

For the smooth running of the door it is important to oil the moving parts.

1. The four pivots on the activating arms
2. The roller wheels
3. The top spring attachments

IMPORTANT SAFETY PRECAUTIONS

Adjust springs only when the door is in the open position. Before removing springs or spring anchor brackets use a prop to securely keep the door in the open position. Release the spring tension by unscrewing adjustment nuts.

NEVER ADJUST OR REMOVE THE SPRINGS WITH THE DOOR IN THE CLOSE POSITION.

In the light of the progress we reserve the right to alter the specification of materials and the method of assembly of these door gears, without notification.

PACKED BY:-

DATED

**WARNING TRACK END STOPS MUST BE FITTED BEFORE
OPENING THE DOOR.**

**PLEASE NOTE WHEN FITTING AP150/200/250/350/500
SHORT ARM GEAR YOU MAY NEED TO CUT AND RE-DRILL
THE TRACK SO THE SPINDLE FITS THE END STOP WHEN THE
DOOR IS OPEN**