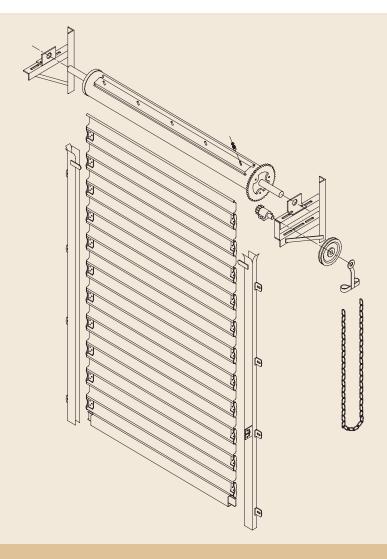


# 6-8 & 10/100 Series

INSTALLATION INSTRUCTIONS



### DISCLAIMER

THESE INSTRUCTIONS ARE INTENDED FOR PROFESSIONAL GARAGE DOOR INSTALLERS

Note: All references are taken from inside looking out



Part No. 9233. Revision 2 April 2011

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## 1.0 BEFORE YOU START

## **1.1 SAFETY CHECKLIST**

The following hazards and hazard controls have been identified for installers during the installation of this door.

Hazard	Control
<ul> <li>Housekeeping - risk of slip trip or fall</li> <li>Housekeeping - risk of injury to other people or animals in the installers work area</li> </ul>	<ul> <li>Tidy up site prior to start work as a minimum area should be at least the area of the installation back into the garage and 2 metres in front</li> <li>If the Site housekeeping is deemed to be unsafe do not install the door</li> <li>Keep all people well clear of installers work area with appropriate signage and discussion with owner</li> </ul>
<ul> <li>Manual or mechanical handling when moving the door from the Trailer or Ute to the installation area - risk of musculoskeletal injury</li> <li>Manual or mechanical handling when installing Doors &amp; Openers particularly above head height - risk of musculoskeletal injury or twisting</li> <li>Manual or mechanical handling when installing tracks and torsion bars - risk of musculoskeletal injury</li> <li>Manual or mechanical handling when installing tracks and torsion bars - risk of musculoskeletal injury</li> <li>Manual or mechanical handling when installing the door opener - risk of musculoskeletal injury or twisting</li> <li>Ensure product is secured to mechanical lifting device</li> </ul>	<ul> <li>Correct lifting technique for Roller Door/Shutter</li> <li>Use of 2 person lifts</li> <li>Use of mechanical aids such as lifting stands, forklift, cranes</li> <li>Avoid twisting (Practice correct lifting techniques)</li> <li>Correct use of ladders while installing tracks</li> <li>Use of correct technique of knotted rope installation aids</li> <li>Use of correct slings, spreader bars etc.</li> </ul>
Working at heights and working with ladders, scissor lifts, scaffold -     risk of fall from height	<ul> <li>Ladder check</li> <li>Ladder placement</li> <li>Do not work off the top rung</li> </ul>
<ul> <li>Sharp edges on Door, tracks or related jewellery - risk of laceration</li> </ul>	<ul> <li>Wear appropriate PPE (Dyneema cut off Gloves)</li> <li>Follow instruction explicitly particularly for the installation of some parts of the doors as the unrolled cut out edges presents a very sharp edge</li> </ul>
• Pinch points - risk of cut, puncture or crush injury	<ul><li>Wear appropriate PPE and keep hands well clear of pinch points</li><li>Ensure hands well clear of the panels</li></ul>
<ul> <li>Use of hand tools - risk of eye injury, laceration cut stab or puncture injuries (Tools checklist)</li> <li>Use of Electric/ Battery or pneumatic tools - noise hazard</li> <li>Use of cutting tools creating sparks - risk of fire</li> </ul>	<ul> <li>Wear appropriate PPE and utilise operators manual</li> <li>Use appropriate noise/hearing protection in the form of ear plugs or ear muffs</li> <li>Ensure appropriate fire protection available and housekeeping to ensure that flammable liquids or materials are removed from the area of work</li> </ul>
<ul> <li>Tension spring - risk of release of stored energy (various door parts, tools, jewellery striking installer on the head or body)</li> </ul>	<ul> <li>Ensure door is correctly secured</li> <li>Ensure that pipe wrench is fitted correctly to the axle and if it is gripped onto the axle do not underestimate the tension in the spring when undoing the clamps</li> <li>Ensure the correct length pipe wrench, bars or other equipment is utilised</li> <li>Ensure correct bolts are tightened or loosened to ensure there is no release or controlled release of energy from the spring through the pipe wrench</li> <li>Keep hands clear of the pipe wrench at all times</li> <li>Keep head clear of the pipe wrench at all times</li> </ul>
<ul> <li>Position the door on the brackets, there is a risk of the door falling from the brackets striking a person</li> </ul>	<ul> <li>Ensure the door is immediately fastened to the bracket with the "U" Bolt</li> <li>Ensure no-one ever walks under a door sitting on a bracket</li> </ul>



## 1.2 FASTENER RECOMMENDATIONS FOR FITTING GARAGE DOORS

MATERIAL	FASTENER TYPE(S)	DIAMETER OR TYPE		LENGTH OF FASTENER (See Note)
	Coach Bolts (Hex Lag Screw)	5/16"	Х	1½"
	- combined with wall plugs	3/8"	Х	2"
New Solid Brick	Macplugs (wall plugs) to suit above	5/16"	Х	50mm
		3/8"	Х	60mm
	HLC Sleeve Anchors (Dyna Bolts)	12mm	Х	55mm
New Hollow Brick	HRD-VGK or HGK-VGS (Hex Head) Frame Anchors	10mm	Х	60mm
	Coach Bolts (Hex Lag Screw)	5/16"	Х	1½"
	- combined with wall plugs	3/8"	Х	2"
New Solid Concrete	New Solid Concrete Macplugs (wall plugs) to suit above		Х	50mm
			Х	60mm
	HLC Sleeve Anchors (Dyna Bolts)	12mm	Х	55mm
Aerated Concrete e.g. (HEBEL)	Fischer Nylon Twist Lock Anchor Type GB 14	14mm	х	85mm
		5/16"	Х	1"
Steel Framing	Hex Head Bolt Zinc Plated,	3/8"	Х	1"
e.g. BHP Framing (with rear access)	Hexagon Nuts Zinc Plated, Washers Zinc Plated	10mm	Х	25mm
•		12mm	Х	25mm
Heavy Gauge Steel	Hex Head Tek	14-20	Х	22mm
Light Steel Framing		10mm	Х	100mm
e.g. BHP House	Heavy Duty Kap Toggle	12mm	X	100mm
Framing (no rear access)	Hex Head Tek	6-10	Х	20mm
		5/16"	X	11/2"
New Timber	Coach Bolts (Hex Lag Screw)	3/8"	X	2"
	Hex Head Tek	14-10	X	50mm

#### **IMPORTANT NOTES:**

1. For installation to materials not covered in the above chart, the installer should seek expert advice from a qualified builder.

- 2. Minimum length of fastener does not exclude use of longer lengths. Decision must be made by fitter to ensure adequate strength.
- 3. Recommendations for old materials or materials not in good condition are not included. If in doubt about the strength of the material seek specialist advice.

4. Fasteners for sectional door spring brackets and top track brackets in masonry should be at least 5/16" x 2.5" long or metric equivalent.

5. HEBEL Fischer type fastener should be installed 150mm from edge of blocks. Minimum overlap of door should be approximately 115mm (S1),

110mm (S3) and 90mm (Panelift). Add 50mm more if mounted on panels instead of blocks.

### **IMPORTANT INFORMATION ON FASTENERS**

Coach bolts/screws supplied with this product are suitable for fastening to timber jambs. Correct and safe fastening to other materials may require different fasteners.

The installer must select and use fasteners appropriate to the material into which they are being fixed.

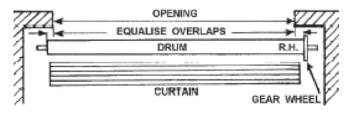
### **1.3 PREPARATION**

Check the opening dimensions to ensure you have the correct door size. Check floor and lintel levels and work from the lowest side or from the side with the least headroom. Position the drum in front of the opening so that the drum tube (excluding the gear wheel) is exactly in the centre of the opening. Check the width of the curtain with the width of the opening and ensure that when the fixing holes in the curtain are lined up with the fixing studs on the drum, the curtain overlaps an equal distance on each side of the opening. Check that the headroom and sideroom clearances are in accordance with those shown in the Table 1 and 2.

## 1.4 REQUIREMENTS BEFORE INSTALLATION

B&D Roll-A-Shutters<sup>®</sup> are normally installed to operate behind the opening, overlapping as shown on Fig.1. Openings should therefore have sufficient return on both sides to accommodate the support brackets and door guides, with necessary working clearances.

## FIGURE 1: GENERAL DRUM AND CURTAIN ARRANGEMENT



The door is supported on brackets above the opening at each end and requires headroom for the door to roll up (see Table 1). Piers or door posts must extend beyond the top of the opening to provide fixing for the support brackets.

It is preferable that lintels (or 'heads') be built flush with, or slightly forward of the back of the door posts. This avoids an excessive gap between door and lintel while allowing clearance to prevent the door rubbing against lintel.

WARNING! No guarantee will be given or responsibility accepted by the manufacturers if the door is not installed as instructed.

For satisfactory door operation please follow the instructions carefully.

## 2.0 INSTALLATION

## 2.1 FASTENER RECOMMENDATION

Wall fixings are not supplied with the door. The following items are recommended with minimum sizes and can be obtained from most hardware stores.

**For Brackets:** Use 12mm bolts with masonry anchors; (dynabolts or similar) for brick or concrete walls. For steel frame openings use 12mm bolts and 12mm coach screws or bolt for timber openings. The minimum recommended bolt length is 50mm (2").

**For Guides:** Use 10mm (3/8") coach screws or bolts with a good quality masonry plugs or suitable masonry anchors. The minimum recommended bolt length is 50mm (2").

**NOTE:** Minimum length of fastener does not exclude use of longer length. Decision must be made by installer to ensure adequate strength.

Refer to the Fig.2 for recommended methods of attaching brackets and guides.

When deciding the fixing method, dynamic loads on door brackets as well as the door weight must be considered.

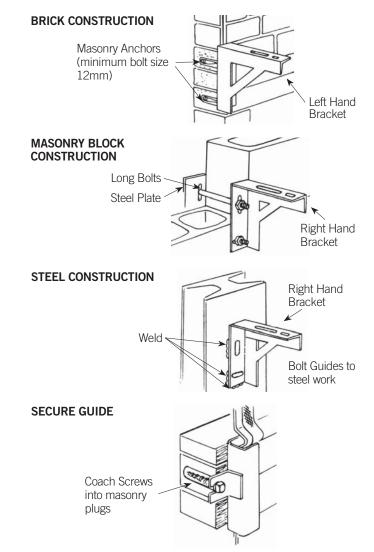
#### NOTE TO BUILDERS

Masonry blockwork should be properly filled and reinforced if brackets are to be mounted directly to blockwork with masonry anchors. Where the blockwork is not solidly filled but structurally sound, long bolts should be passed through the blockwork using suitable steel plates under bolt heads.

Special consideration should be given to brick type and construction of wall, to ensure satisfactory fixing e.g. welding detail it fixed to steel. When installing onto brickwork special fittings will be required.

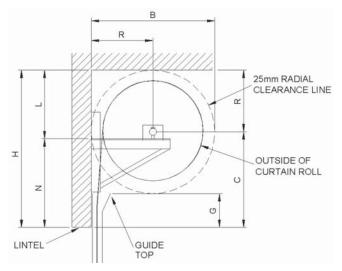
**WARNING:** Fixing surface must be in good condition, if in doubt test suitability or seek specialist advice. Fixing types vary depending on the building structure. It is the installers responsibility to determine the correct fixing and to ensure that the fixing methods are sound. For steel structures seek advise from the builder/manufacturer.

### FIGURE 2: ALTERNATIVE METHODS OF ATTACHING BRACKETS AND GUIDES



## 2.2 BRACKET POSITION REQUIREMENTS

# FIGURE 3: HEADROOM AND BACKROOM DIMENSIONS



#### **General Dimensions**

- H: Minimum Headroom required
- **B:** Minimum Backroom required
- **G:** Guide Top height above Lintel Standard guides = 150 Channel windlock guides = 250 Fabricated windlock guides = 175

#### **Centre Line Dimensions**

- C: Axle Centreline Distance above Lintel. (standard installation)
- **R:** Axle Centreline Distance to Wall Fixing Surface and the Ceiling or nearest obstruction above

### Bracket Mounting Position

### **N:** Top of Mounting Arm to the Lintel

L: Top of Mounting Arm to the nearest obstruction above

**NOTE:** All dimensions shown in Table 1 represent the **minimum recommended** clearances. If the head room dimension (H) is less than the given amount, the bottom rail of the door will intrude into the opening by the difference. (All values in mm)

#### TABLE 1 STANDARD 70MM OR 100MM GUIDES

OPENING HEIGHT	н	В	R	С	L	N
Up to 2195	514	364	182	332	217	297
2200 to 2595	530	380	190	340	225	305
2600 to 3195	540	390	195	345	230	310
3200 to 3795	570	420	210	360	245	325
3800 to 4395	590	440	220	370	255	335
4400 to 4895	600	450	225	375	260	340
4900 to 5595	610	460	230	380	265	345
5600 to 6000	626	476	238	388	273	353
6005 to 6500	640	492	246	396	281	361

### CHANNEL WINDLOCKED GUIDES (Windlock Clips every 2nd or every 4th slat)

OPENING HEIGHT	н	В	R	С	L	N
Up to 2390	654	404	202	452	237	417
2395 to 3575	700	450	225	475	260	440
3580 to 4870	732	482	241	491	276	456
4875 to 6000	786	536	268	518	303	483
6005 to 6500	810	590	295	545	330	510

### FABRICATED WINDLOCKED GUIDES (Windlock Clips every 2nd or every 4th slat)

OPENING HEIGHT	н	В	R	С	L	N
Up to 2390	579	404	202	377	237	342
2395 to 3575	625	450	225	400	260	365
3580 to 4870	657	482	241	416	276	381
4875 to 6000	711	536	268	443	303	408
6005 to 6500	735	590	295	470	330	435

### DIMENSIONS FOR 50MM 'GS' MODELS STANDARD 50MM OR 75MM GUIDES

OPENING HEIGHT	н	В	G	R	С	L	N
Up to 1315	440	290	150	145	295	180	260
1320 to 2110	460	310	150	155	305	190	270
2115 to 2550	470	320	150	160	310	195	275
2555 to 2985	480	330	150	165	315	200	280
2290 to 3945	510	360	150	180	330	215	295
3950 to 4445	530	380	150	190	340	225	305
4450 to 4995	540	390	150	195	345	230	310
5000	560	410	150	205	355	240	320

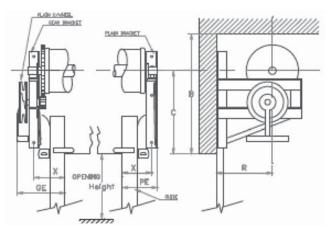


## 2.3 SIDEROOM CLEARANCES

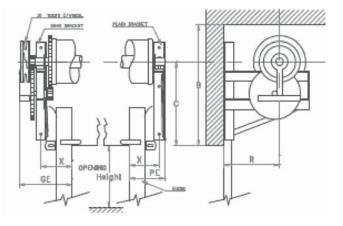
Bracket's positions on Fig. 4, 5, 6, 7 are indicative only, as the gear or motor bracket can be installed on LH or RH side.

**NOTE:** The inside mounted motor (Fig. 6) will hang a max of 80mm in from the side of the opening and a max of 175mm down from the lintel.

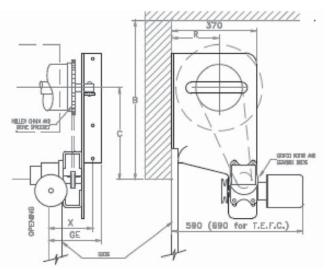
### FIGURE 4: BRACKETS LAYOUT FOR 4.7:1 GEARING



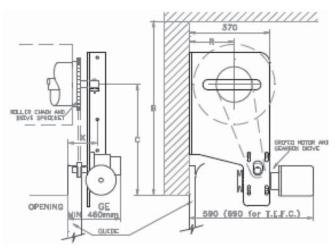
### FIGURE 5: BRACKETS LAYOUT FOR 18.8:1 GEARING



# FIGURE 6: BRACKETS LAYOUT WITH INSIDE MOUNT MOTOR



# FIGURE 7: BRACKETS LAYOUT WITH OUTSIDE MOUNT MOTOR







#### **TABLE 2: SIDEROOM REQUIREMENTS**

### ref to fig. 4,5,6,7. For shutter with Nylon clips add 30mm if using 100mm guides

Onevetien	G	Gear End (Dim 'GE'	<i>'</i> )	Plain End (Dim 'PE')				
Operation	Up to 3600 H	Over 3600H	Windlocked	Up to 3600 H	Over 3600H	Windlocked		
Hand Operation	-	-	-	200	210	210		
4.7:1 Gearing	240	250	250	200	210	210		
18.8 Gearing	280	290	290	200	210	210		
Motor - inside mount	230	240	230	200	210	210		
Motor - outside mount	460	460	460	200	210	210		

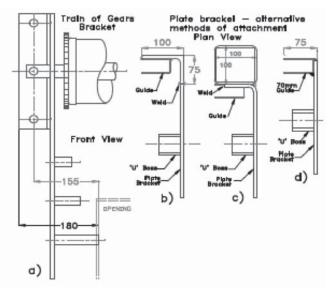
### LIMITED SIDEROOM CLEARANCES

Gearing bracket to be installed 155mm from the opening as per Fig. 8. For minimum sideroom clearances see Table 3. 100x75mm angle and 100x100mm RHS are not supplied with the door.

### 2.4 BRACKETS INSTALLATION

On the lower side of the opening draw a straight level horizontal line in distance N above the lintel and extend by about 150mm over the door post of the opening. This line will indicate the height at which the top of the bracket arm are to be fixed. Vertically across this line, draw the centre lines for the bracket fixing bolt holes in distance X from the opening. For details on distance X check the appropriate bracket type from Fig. 4, 5, 6, 7 and compare with Table 4. If insufficient headroom, measure down from ceiling or obstruction using dimension R and C (Table 1) and mark a new line and treat as the lintel.

## FIGURE 9: BRACKETS LAYOUT FOR LIMITED SIDEROOM INSTALLATION



#### TABLE 4: DISTANCE X OF DOOR BRACKET; REF TO FIG. 3, 4, 5, 6

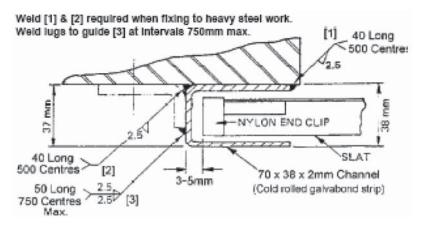
Door side	Gear End	Plain end	
Bracket Type	Train of Gears bracket (Fig.8a)	Brkt with boss and inside foot (Fig.8b,c)	Brkt on guide combination (Fig.8d)
			75mm if guide fixed to steel
Sideroom	180 mm	100 mm	125mm if guide with lugs not shown on drawing)



### 2.5 GUIDES INSTALLATION

Guides must be correct length. The guide top should be in T distance (see Fig 3 and ref. to Table 1) above the lintel. Guides can be shortened by cutting the bottom of guide. Position guides true and plumb at each side of the opening. Allow 3-5 mm of working clearance between the door and the inside of each guide (Fig. 10), mark, drill and fix both guides. Use 10mm bolts (min.) and washers with suitable plugs for masonry application or other fixings to ensure satisfactory attachment). Drill holes and loosely fix the guides.

#### FIGURE 10: STANDARD 70MM GUIDE INSTALLATION

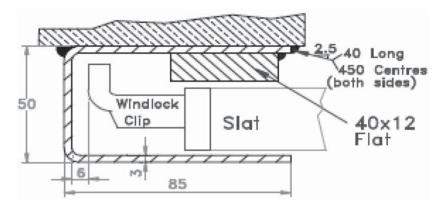


**NOTE: Welding guides to steelwork is not recommended**. Using the bracket as a template mark out and drill holes in the wall to match the spacing of the fixing bolt holes in the mounting brackets. Fix the bracket with suitable fixings after allowing sufficient side clearance for door curtain. Using a water level (recommended method) or a straight edge and spirit level, transfer position of top of first bracket arm to opposite side of opening, then mark, drill and fix second bracket. Ensure that the brackets are secure.

NOTE: The brackets must be perfectly level for correct door operation.

### CURTAIN WITH WINDLOCK CLIPS

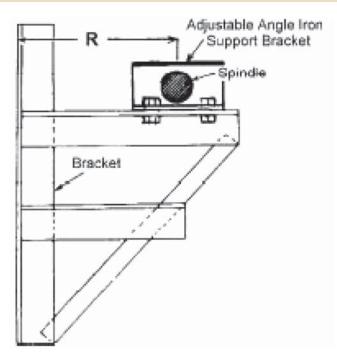
Where windlock clips are fitted to the curtain a special guide must be used. Position the guides to allow 6mm of working clearance between the windlock clip and the inside of each guide (Fig. 11). The guide should be preferably welded on both sides to the steel structure with 40mm runs at 450mm centres. **Do not fully weld at that moment.** Tag guides to the steel work only. If the welding is not possible due to building structure, bolt the lugs welded to the guides at 450mm centres. Use 10mm bolts (min.) and washers with suitable plugs for masonry application or other fixings to ensure satisfactory windlock attachment. Drill holes and loosely fix the guides.



### FIGURE 11: WINDLOCK GUIDE INSTALLATION



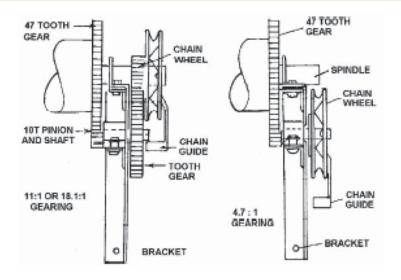
## 2.6 DRUM INSTALLATION



## FIGURE 12: POSITION FOR ADJUSTABLE ANGLE SUPPORT BRACKET

Lift the drum into a position on the brackets, utilising the angle iron support bracket as shown on Fig. 12. The angle iron support bracket should be set in distance R (ref to Table 1) from the wall. The angle should be positioned over the slotted holes in the bracket arm in position to allow the curtain to clear the face of the lintel when it is fully open.

### 2.7 GEARING INSTALLATION

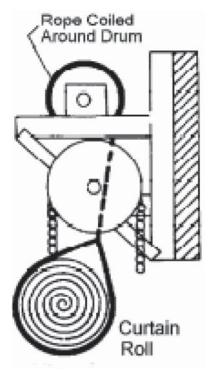


### FIGURE 13: GEARING ASSEMBLY

Assemble all gearing, chain wheel and chain guide onto the gear bracket and the drum spindle as shown on Fig. 13. Ensure that all gears inter-mesh correctly. Thread the hauling chain through the chain guide and over the chain wheel. Ensure that the slat with the holes for fixing to the drum is on the outside of the curtain roll and that it can pass between the drum and the wall.



### FIGURE 14



#### A: For shutters over 3660mm high opening:

Hoist the curtain roll to within 300mm of the drum by means of chain blocks or suitable block and tackle. Follow 6a & 6b.

#### B: For shutters up to 3660mm high openings:

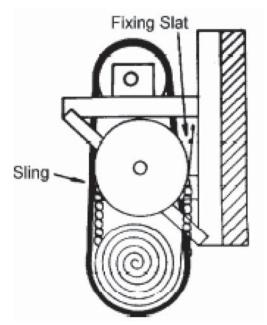
Hoist the curtain roll to within 300mm of the drum by means of chain block or suitable block and tackle or utilise the drum as a winch in the following manner:

**6a):** Securely fasten two lengths of stout rope around the rolled curtain about 450mm from each end of the roll. Pass the loose ends of these ropes up between the drum and the wall, take several turns around the drum with each rope and secure them both firmly onto the drum.

**6b):** By hauling the chain, rotate the drum in an anticlockwise direction and hoist the curtain roll to within 300mm of the drum. Secure the hauling chain.

### 2.9 CURTAIN INSTALLATION

### **FIGURE 15**

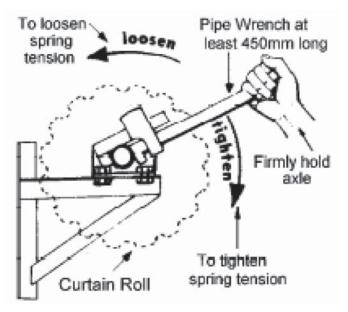


By means of two other lengths of rope sling the curtain roll to the drum as shown in the illustration. If the drum has been used as a winch, release the hauling chain and allow the drum to slowly unwind. Unwind the hoisting ropes from the drum and remove them from the curtain. By using the hauling chain rotate the drum and unroll the curtain sufficiently to allow the fixing slat to be passed up between the wall and the drum. Rotate the drum and curtain until the fixing studs on the drum and the curtain fixing slat can be aligned. Secure the hauling chain and fix the curtain to the drum with the studs and nuts provided.

Release the hauling chain and by means of the chain rotate the drum to roll the curtain fully onto the drum. Secure the hauling chain to prevent the drum from turning and remove the rope slings.



### FIGURE 16 WITH DOOR IN OPEN POSITION



NOTE: Do not use files or similar brittle steel tools. Only mild steel bars must be used.

Tension the door counterbalance springs in the following manner:

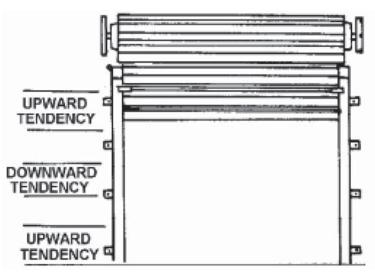
- a) Ensure that the door is in a fully open position (rolled up) and that the hauling chain is secured to prevent the drum and curtain rotating.
- b) With pipe wrench Stillson grip axle securely or insert M.S. tommy bars (min. 450mm long x 12mm dia.) into the holes provided in the plain (non-gear) end of the drum spindle (Fig.16).
- c) With the wrench or bars as levers rotate the spindle in a clockwise (from plain end) direction for a number of turns corresponding with the table opposite to set the correct spring pretension .
- d) Secure the spindle by passing 12mm bolts through the spindle and the angle iron support bracket at both ends. Secure bolts with nuts provided.

Opening Height Up To	No Turns of Drum Spring pre-tension
3048	2
3658	2 <sup>1</sup> / <sub>2</sub>
4878	3
5486	31/4
6096	31/2

## 2.11 DOOR OPERATION

Release the wrench or bars from the spindle to allow the curtain to roll onto the drum under its own motivation but do not allow the bottom rail to roll beyond the guide tops. With a wrench bend the guide stops back into the building so that the bottom rail can be lowered to past the stops. After this is done bend the stops back into position. Lower the curtain into the opening and recheck that the curtain overlap is equal over each jamb. Operate the door up and down several times and check if the curtain to guide clearances and tension are correct. It should display the characteristic shown in Fig.17, i.e. upward tendency at the extreme ends of travel and downwards over a central 30% span of its travel. If some tension adjustment is required the curtain must be raised again to the head and increase or decrease the tension as described in Step 9.

# FIGURE 17: CURTAIN CHARACTERISTIC DURING DOOR OPERATION



When the curtain is running smoothly in the guides, tighten the guide fixing bolts securely or weld as shown on Fig.10 and Fig.11. Lubricate the gears, bearings and the interiors of the guide channels with a soft grease, preferably Petroleum jelly or a light coloured, general purpose grease Grade I or 2 which is readily available from service stations.

# **3.0 AFTER INSTALLATION CARE**

### GENERAL CARE OF YOUR ROLL-A-SHUTTER®

### CLEANING

Your B&D Roll-A-Shutter<sup>®</sup> has been manufactured from galvanised or colorcoated steel, which is one of the best paint films commercially available today. However, all exposed surfaces require some attention to guard against the premature onset of corrosion and any other harmful atmospheric effects. In our atmosphere there are harmful deposits that gather on the door surface and if not removed regularly, will seriously affect the appearance and life of the door.

Washing of the door with clean water and a cloth is recommended – particular care should be taken to clean areas of the door not normally washed by rain.

### LOCK

Your lock does not require special maintenance, however, if the mechanism becomes stiff, the application of powdered graphite is recommended – do not grease or oil the lock.

#### **REGULAR MAINTENANCE REQUIRED**

B&D recommends that you check the operation of your Roll-A-Shutter<sup>®</sup> at least every six months (more regularly in extreme environments or frequent use). The effort required to manually open and to manually close the door should be about the same (if door has an automatic opener, put into manual mode before testing door).

**NOTE:** The door guide grease should be cleaned out and replaced least annually or more frequently in extreme conditions.

If the door is difficult to operate in either direction (up or down) then check that the inside surfaces of the guides are clean and free of obstructions.

If the door is still difficult to operate, then your door will need a service to adjust the spring tension and possibly other operational parts of the door. This service should only be carried out by an experienced door technician, using the correct tools.

If you have an automatic opener fitted to your door, it is particularly important that you ensure the optimum operation of the door, otherwise you may reduce the effective life of the opener.

To keep your door running well, it is recommended that your door be serviced, by an experienced door technician, every 12 months (more regularly in extreme environments or frequent use), or earlier if required.

#### **SPRING TENSION**

It is natural for springs to lose tension over time. When spring tension is adjusted or when your door is first installed it is usual to apply a little more tension than is required for balanced operation, to allow for the normal "settling in" of the springs.

**WARNING:** The springs on the door are under extreme tension. On NO account should they be adjusted by an inexperienced person. B&D recommends regular servicing and safety checks be carried out at least annually, more frequently in extreme conditions or in high use environments.

#### WARRANTY

B&D Roll-A-Shutter<sup>®</sup> is covered by a 12 month warranty for complete door and parts, surface (excludes salt corrosion).

Warranty conditional on proper care as recommended above. Full details of the warranty are available from **www.bnd.com.au** 

#### **B&D Doors Office Locations:**

New South Wa
Queensland:
Newcastle:
Victoria

34 Marigold St, Revesby 2212. 17 Oasis Court, Clontarf 4019. Unit 1/108 Mitchell Rd, Cardiff NSW 22

ione: (02) 9722 5555 ione: (07) 3883 0200 ione: (02) 4956 8533 ione: (03) 9237 7766 South Australia: Western Australia: 23 Frederick Rd, Royal Park 5014. 96 Mulgul Rd, Malaga 6090. 34 Marigold St, Revesby 2212. Phone: (08) 8440 4747 Phone: (08) 9247 8777 Phone: +61 (0)2 9722 5555

## YOUR REPRESENTATIVE IS

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