

LP Morgan Dipper User Manual



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ATTENTION:

Please read all of these instructions before you operate your Dipper for the first time. Save these instructions for further reference.



Never operate the Dipper while the projector is still powered!

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October 2011 Version 2.2

To the owner

Congratulations on purchasing an Australian made LP Morgan Dipper motorised projector mount. This innovative projector mounting system is a novel and secure way to mount your projector out of sight when not in use, giving you maximum enjoyment and a truly cinematic experience.

Please take a moment to review this manual, as it will ensure you many years of trouble-free service from your new Dipper.

On Safety

Check that the operating voltage of your unit is identical with the voltage of your local power supply. If voltage adaptation is required, consult with qualified an electrician.

Should liquid or solid objects fall into the unit, unplug and have it checked by qualified personnel before operating it further.

To disconnect the cord, pull it out by the plug. Never pull the cord itself.

The power supply should be near the unit and easily accessible.

The unit is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the unit has been turned off.

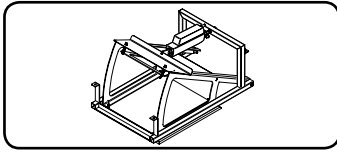
Do not place your hand or other objects near the trapdoor during operation.

The Skyhook projector mount must be used for installation with the Dipper.

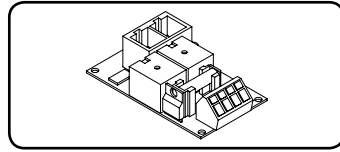
On Cleaning

To keep the unit looking new and clean a dust cover is supplied. If cleaning is necessary use a soft cloth and mild detergent solution. Never use strong solvents, such as thinners, benzene, or abrasive cleaners.

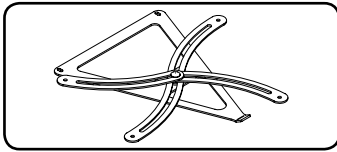
Unpacking the Dipper



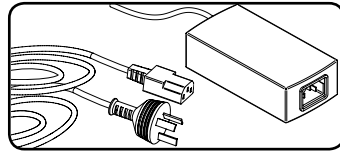
Dipper Unit



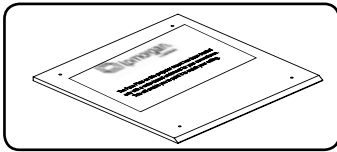
Control Unit,
Protective Enclosure



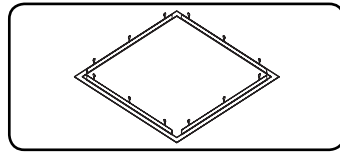
LP Morgan Skyhook Projector
Mount System (including
mounting bolts and spacers)



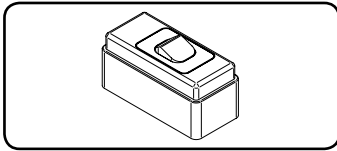
24V Power
Supply



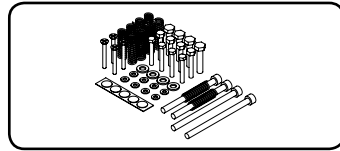
Ceiling Face Plate



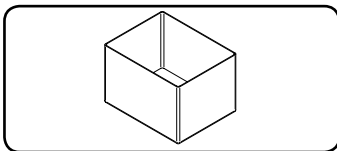
Ceiling Trim



Wall Switch and Architrave
Mount



Spring, Bolts Washers



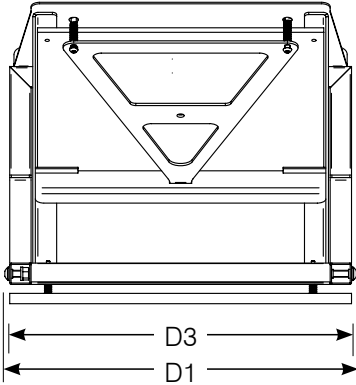
Cardboard Dust cover

When unpacking the Dipper, please handle all parts with care.



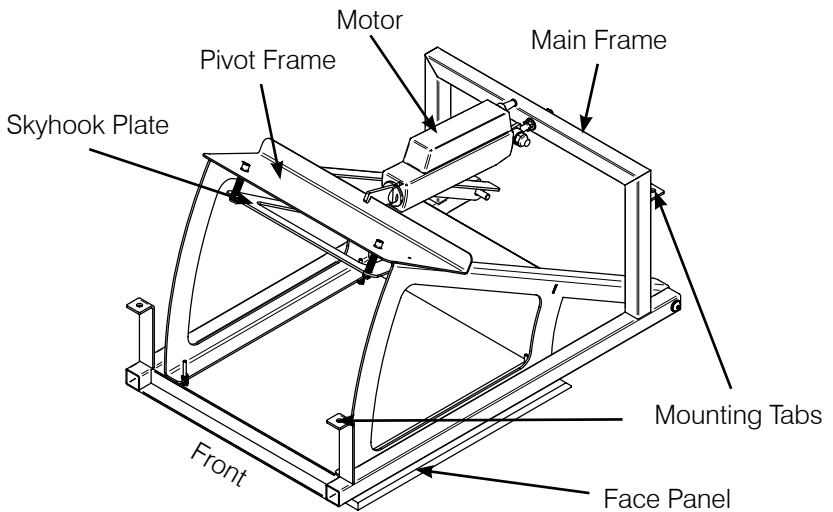
Do not destroy the folded inner box when unpacking, as it is the dust cover for this unit!

Front view, closed position

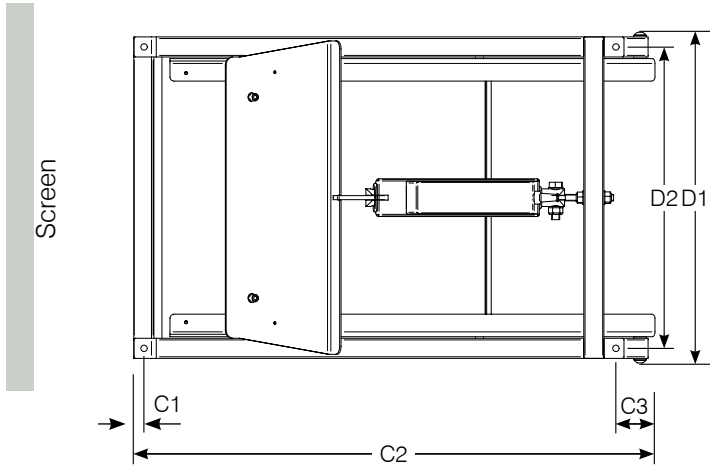


Dipper Size	Overall Width (D1)	Face Panel Width (D3)
Medium	405mm	400mm
Large	505mm	500mm

Front 3D view



Top view, closed position



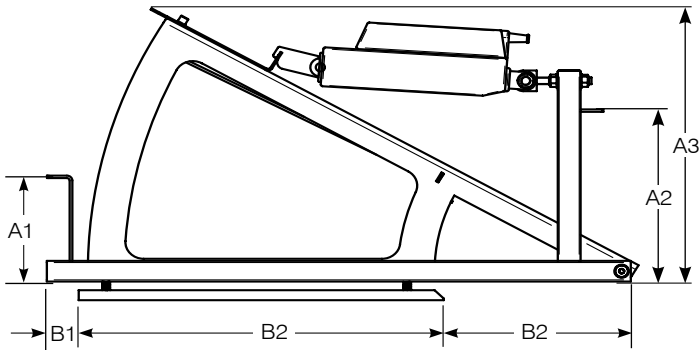
Dipper Size	Front mounting hole (C1)	Overall Length (C2)	Rear mounting hole (C3)	Overall Width (D1)	Mounting hole Width (D2)
Medium	15	6500	50	405	380
Large	15	830	40	505	480

All measurements are in millimetres.

Part names and dimensions

When installing the Dipper, be sure to allow access for future maintenance requirements of the unit. Wherever possible, allow access to the ceiling cavity other than through the Dipper's hole, so that you can access the projector should the power supply fail!

Side view



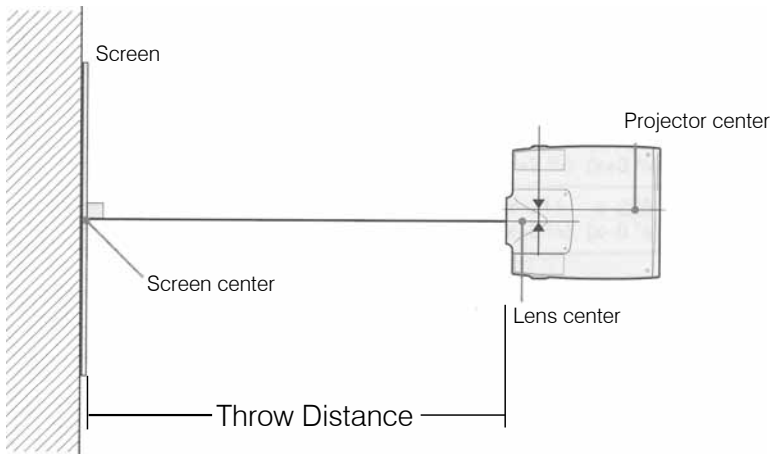
Dipper Size	Front Mount Tabs (A1)	Rear Mount Tabs (A2)	Overall Height (A3)	Face Plate to Front (B1)	Face Plate Length (B2)	Face Plate to back (B3)
Medium	125	205	355	35	400	215
Large	125	175	430	30	500	300

All measurements are in millimetres.

Mechanical installation

The first crucial step, like any projector installation, is to determine where to put the Dipper in the ceiling. The Dipper should be installed so that the projector lens is centred horizontally to the screen. The distance from the screen depends on the projector's throw distance.

Calculate the maximum and minimum throw distances for the projector and place the Dipper somewhere in between. It is better for the projector to be closer to the screen, but don't place it at the extreme end of your calculation. Allow some room to adjust the zoom in either direction.



Note:

When aligning the Dipper make sure that the projector lens is centred on the screen, which is not necessarily the projector centre.

Ceiling opening

The Dipper comes with a 12mm undercoated MDF ceiling face plate and an aluminium ceiling trim.

It is recommended that you paint this panel before installing the Dipper in the ceiling.

In the case of a non-plasterboard ceiling, you may choose to fabricate your own ceiling panel (eg. from the same timber/material as the ceiling itself) to match.

It is recommended that you leave a 2mm gap around all edges of the Dipper's ceiling face plate.

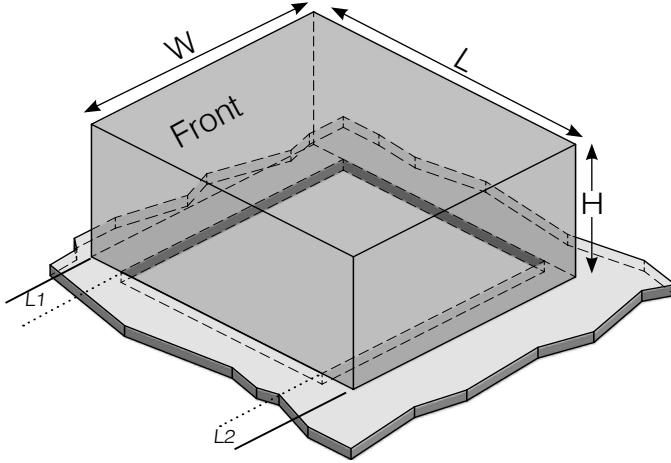
Supplied is a plastic trim that you may use to finish off the edge of the hole. The cutout dimensions given below assume that you will use this ceiling trim.

Dipper Size	Face Panel (L x W)	Cutout required without ceiling trim (L x W)	Cutout required with ceiling trim (L x W)
Medium	400 x 400	405 x 405	430 x 430
Large	500 x 500	505 x 505	530 x 530

All measurements are in millimetres.

Ceiling space

The following diagrams show the position of the ceiling cutout in relation to the Dipper frame, and the space required above the ceiling.

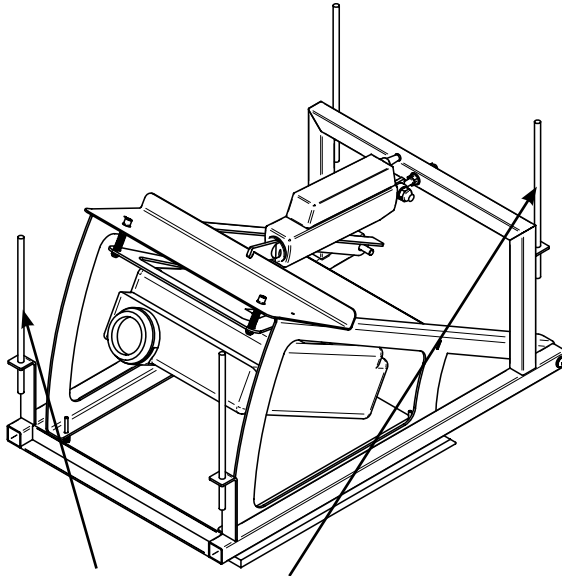


Dipper Size	Length (L)	Width (W)	Height (H)	Front Gap (L1)	Rear Gap (L2)
Medium	650	405	355	32	212
Large	830	505	430	27	297

All measurements are in millimetres.

Ceiling fastening - suspended ceiling

For suspended ceilings you can suspend the Dipper itself through the four mounting holes using the threaded rods.

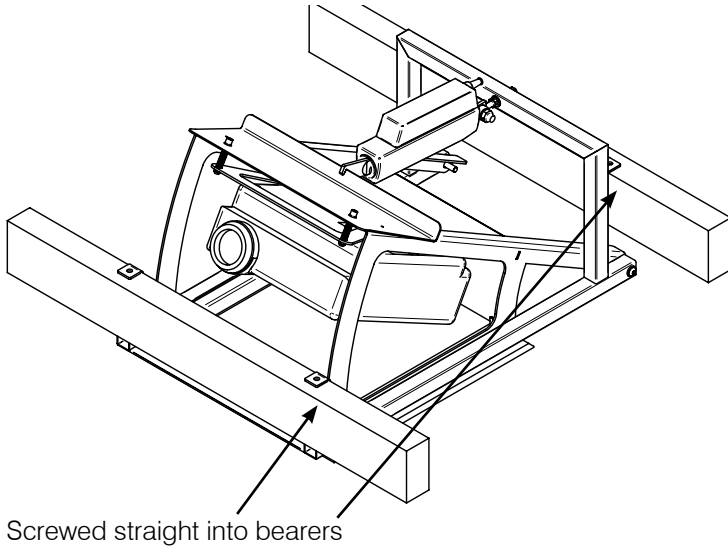


Threaded rod and nuts

You can use the nuts to adjust the height of the Dipper once installed, so you can get it exactly flush with the ceiling.

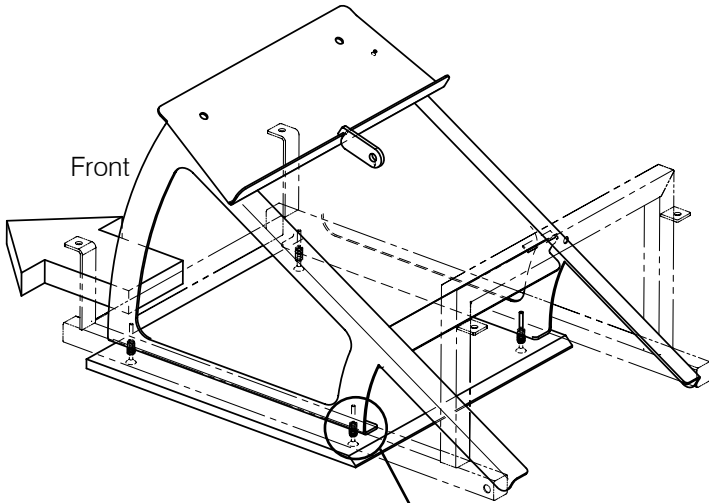
Ceiling fastening - trussed ceiling

For some ceilings, you will need to construct a support structure for the Dipper to rest in - this can be as simple as two appropriately spaced bearers at the right height. See the previous pages for the relevant dimensions.



Allow yourself some way to easily adjust the height of the Dipper once installed, so you can get it exactly flush with the ceiling.

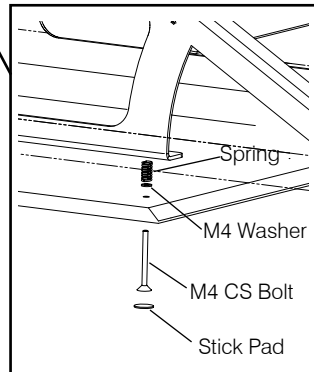
Face plate installation



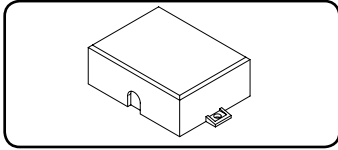
Once the Dipper frame is installed you should attach the face panel.

It is recommended that you paint the face panel to match the room before installing it.

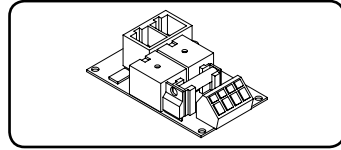
1. Insert 4 x countersunk bolts, washers and springs as shown through face panel from the underside.
2. Adjust the level so that it is exactly flush with the underside of the ceiling.
3. Once fully adjusted, cover holes with stick pads (for more information, refer to Page 9).



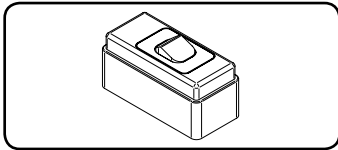
Electrical installation



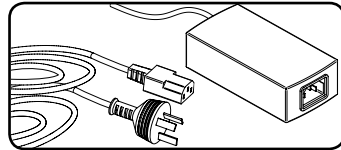
Protective enclosure



Control unit



Wall switch



24V Power supply

The Dipper is supplied with a unique control unit that can be adapted to just about any installation requirement.

It operates via dry contacts, but can be easily upgraded to a 12V trigger, infra red, remote control, or even RS232.

A maintained, single pull, single throw switch (a normal light switch) comes supplied as standard, or alternatively you can use a single relay. Open circuit is up, close circuit is down.

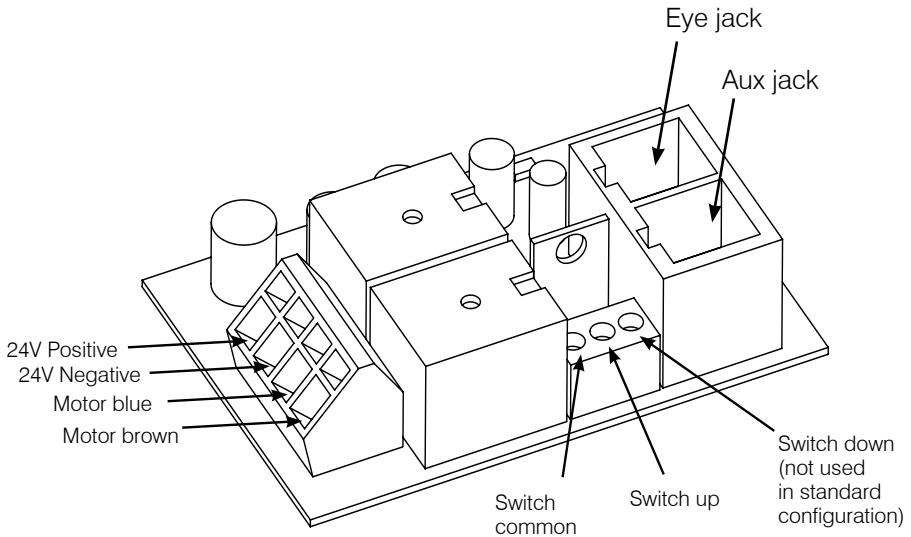
You do not need to be a qualified electrician to wire the Dipper, as all circuiting is 24V, however Herma will not accept responsibility for damage incurred by faulty or incorrect wiring.

The power supply and motor are pre-wired, so all you need to do is attach the relay or motor cable and switch as shown in the following diagram. The switch needs to be wired into the “Switch Up” and “Common” terminals.

Wiring diagram



Do not, under any circumstances, connect 240 VAC to any of these terminals!



Cable management

Every projector has slightly different cable exit positions and because of this, the Dipper does not have a dedicated cable exit hole.

Instead, we recommend you drill a hole in an appropriate place on the top timber panel. Make sure to leave enough slack in the cable to account for the motion of the Dipper during operation.

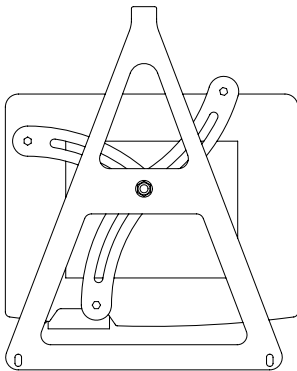
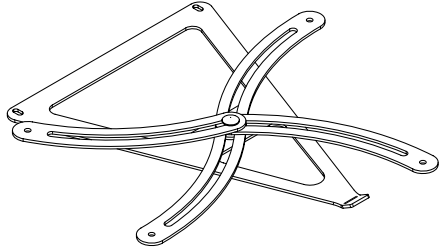
Projector installation

The Dipper uses the LP Morgan Skyhook projector mount system.

The parts kit contains:

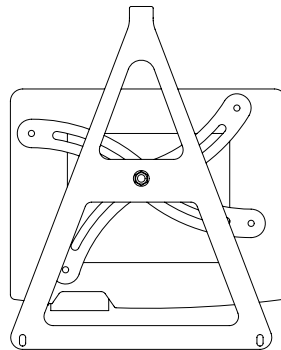
- 4 x long Skyhook arms,
- 4 x M4, 4 x M5 & 4 x M6 mounting bolts
- 4 x springs

Determine which size mounting bolts suit your projector, and set others aside. They are no longer required.



If your projector has only 3 mounting holes, remove one of the adjustable arms. Undo the M8 Nyloc nut, remove an arm, and replace the nut.

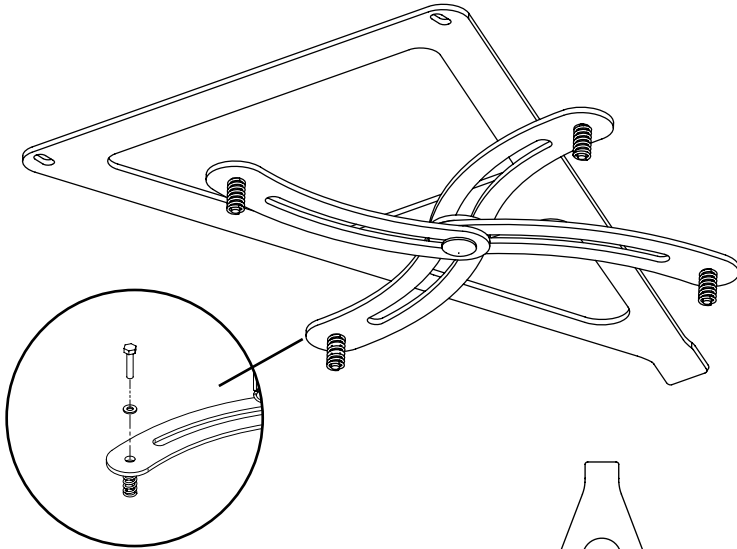
Before connecting the Skyhook, spread out the arms so each end is over one of the mounting holes. If you feel it necessary, this is an appropriate time to remove one or two of the short arms and replace with the supplied optional longer arms.



Front of projector

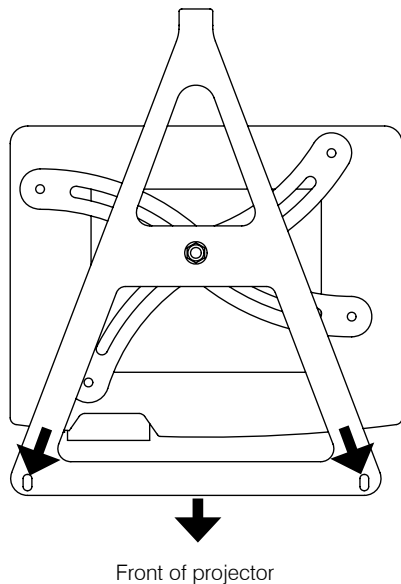
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Connect the Skyhook to projector. Fit the springs between the arms and the projector, and tighten the mounting bolts so that the projector is parallel to the triangular plate.



Move the position of the triangular plate over the centre of the projector, adjusting the unit so that the edge with the two holes aligns with the front of the projector.

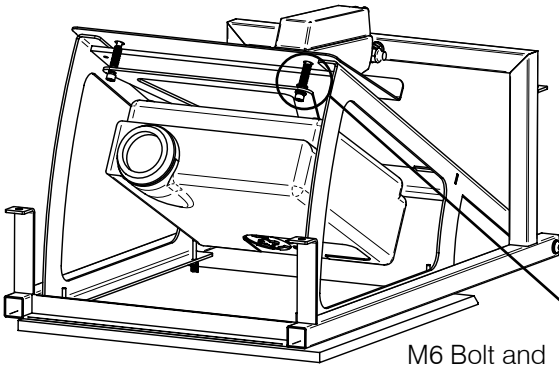
Tighten the mounting bolts. The projector and skyhook system is ready to be inserted into the Dipper.



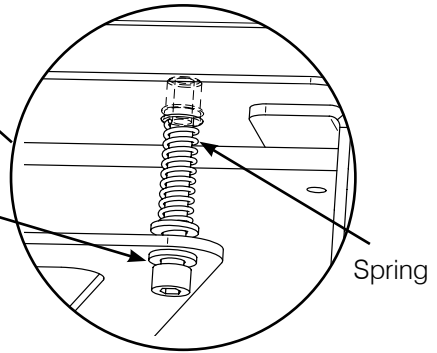
Projector installation

First ensure that the Dipper is operating correctly, and that the projector cables are properly secured.

Open the Dipper and insert the triangular projector plate into the slot in the rear of the Dipper. Attach it to the front using the supplied M6 bolts and springs.

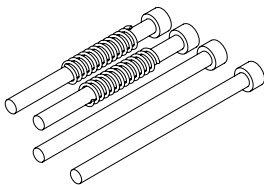


M6 Bolt and washers

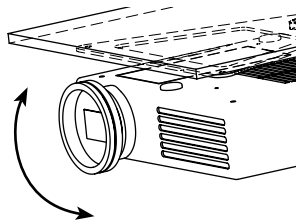


Spring

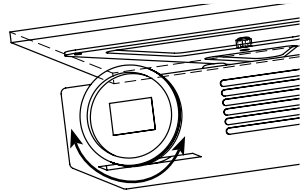
These bolts will also give you Yaw and Tilt adjustment to align your image on the screen, while the centre M8 bolt provides Pan adjustment. The springs will ensure that the projector is held still during motion. Do not install the projector plate without springs. Longer cap screws and extra springs are supplied if you need extra downwards tilt.



M6 x 75 Cap Screws
M6 x 90 Cap Screws



Tilt



Yaw

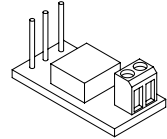
Accessories

The following Dipper accessories are also available from LP Morgan. Contact your local retailer for pricing information.

Triggering From Projector:

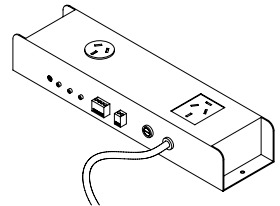
HER20HD12V: 12 volt trigger unit for projectors **with** a 12 volt trigger output.

- Often used also with LPM43SCR12V: Screen 12V Trigger



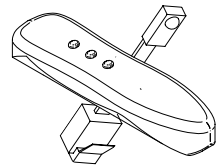
HER20HD12V and LPM48HDSCRTRIG: Trigger Unit for Projectors **without** a 12 Volt Trigger

- Uses current sensing to detect when the projector is on.
- Triggers a screen as well.
- Includes an IR repeater kit.



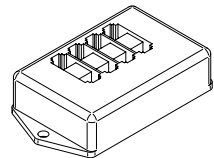
Infra Red Remote Control:

HER20HDIRKIT: Infra Red remote control and receiver



RS232 Integration:

LPM43MULTI: RS232 Interface for both Projector Mount and Screen Controls.



Maintenance and troubleshooting

The unit has stopped working and won't go up or down:

1. Check that all the terminations are secure, that the power supply is plugged in and that the cables are free from damage.
2. A light on the power supply indicates power - if it is off, then the power supply may be damaged.
3. Open the black plastic enclosure to expose the control board. Switch the power off and on. You will see a LED flash on the circuit board which indicates power, and that the circuit board is operating correctly.
4. Close the Switch "Up" and "Common" terminals on the control board (refer to page 15 for a wiring diagram). If the unit does not move, but you hear a "clicking" sound then the motor may be damaged. Contact Herma for advice.
5. If you have been repeatedly operating the Dipper, the motor may have reached a thermal cutout and won't operate. Wait five minutes for it cool and try again.
6. If you have integrated the Dipper into a control system (eg. projector triggering, IR repeating, Crestron, AMX, etc.) then the problem is most likely with the control system! Check that the right signal is getting to the Dipper. Use the wall switch (close the Switch "Up" and "Common" terminals) to test the unit.

I can't get enough downwards tilt on my projector:

We have supplied long (75mm), and extra-long (95mm) M6 caps screw bolts if you need to angle the projector further down. Use the extra springs (also supplied) to keep the Skyhook plate tightly secured.

Warranty Information

Keep your original receipt for warranty.

Please fill out the online warranty form in order to qualify for the manufacturer's warranty.

<http://www.lpmorgan.com.au/owners.html>

The warranty covers defects in workmanship and materials, provided this product has been installed in a normal environment and maintained according to the written instructions. Herma warrants the product against loss of usefulness, discolouration or deterioration of optical quality within the warranty period as a result of manufacturing or material defects. This warranty applies only within Australia.

Please return your goods to the place of purchase for all warranty claims.

Conditions

Any equipment replaced pursuant to the terms of this warranty shall be retained by Herma.

All costs related to de-installation and re-installation of the product covered by this warranty are not the responsibility of Herma Technologies. Herma will not be responsible for any consequential damages during or following installation procedures.

Herma is not responsible for any freight costs relating to repair or replacement. Equipment must be returned to Herma in suitable packing to prevent damage in transit. Herma will not accept any responsibility for damage to the equipment caused by inadequate or unsuitable packing, or for any damage howsoever caused whilst the goods are in transit.

Herma Technologies shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use of, misuse of, or inability to use, the equipment.

This Warranty does not cover any product which has been subjected to misuse, abuse, neglect, accidental or intentional damage, improper voltage or any alteration which affects the reliability or performance of the equipment not attributable to faulty manufacture, parts or labour and without limiting the generality of the foregoing.

This Warranty does not cover any product where usage, adaptation or installation are not in accordance with our written installation and operating instructions.

Warranty Period:

Two years from date of purchase.

**For more information on our range of products,
please visit www.lpmorgan.com.au, or contact
your local LP Morgan Retailer.**

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